GRAFUTIN, V. I.; SUBBOTIN, V. I.; SUVOROV, L. Ya.

"Heat transfer in liquid-metal-cooled reactor elements."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

BYAKOV, V. M.; GRAFUTIN, V. N.; SUVOROV, L. Ya.

"Dynamics of boiling steam-and-water mixture."

report submitted for 3rd Intl Conf, Peaceful Uses of Atomic Energy, Geneva, 31 Aug-9 Sep 64.

L 27870-66 EWT(m)/EFF(c)/T/EWP(t)/EWP(b)/EWA(m)-2 IJP(c) JD
ACCESSION NR: AP5021097 UR/0056/65/049/002/0389/0392

AUTHOR: Kukavadze, G. M.; Memelova, L. Ya.; Suvorov, L. Ya.

TITLE: Search for anomalous hydrogen

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49, no. 2, 1965, 389-392

TOPIC TAGS: hydrogen, deuterium, isotope, mass spectrometry/ MI 1311-04

ABSTRACT: An attempt was made to detect with the aid of a mass spectrometer elementary particles of mass greater than that of the proton. The MI 1311-04 mass spectrometer was subjected for this purpose to additional tests, to ascertain its maximum sensitivity and best resolution. By using an electron multiplier as both ion collector and first amplification stage, ion currents as low as 10^{-18} amp could be measured. In a vacuum of 2×10^{-7} mm Hg and at a background current of 2×10^{-18} amp, the resolution of the mass spectrometer at 5% mass-spectrum line intensity was found to be 500. After establishing the exact characteristics of the instrument, the authors undertook a search for anomalous stable hydrogen in atmospheric air, hydrogen, and deuterium. The results have established that if the mass of the wild hydrogen is larger than the mass of deuterium, then its concentration in the earth's atmosphere can be less than 1.5×10^{-12}, and if the mass

Card 1/2

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ACCESSION NR: AP5021097

6

of the wild hydrogen lies between that of ordinary hydrogen and deuterium, its maximum concentration should range from 1×10^{-8} to 1.5×10^{-12}. The lines corresponding to mass-5 in concentrated water, which might be ascribed to anomalous hydrogen, are shown to be due to HD_2^+ ions. It is recommended that earlier mass spectrograms be reviewed to search for lines which at that time were not identified with definite masses. "The authors thank L. B. Okun' for providing the initiative for this work, B. V. Ershler, B. Z. Torlin, and R. L. Serdyuk for useful discussions, and A. A. Belonozhenko for help with the measurements." Orig. art. has: 1 table.

ASSOCIATION: Institut teoreticheskoy i eksperimental'noy fiziki (Institute of Theoretical and Experimental Physics)

SUBMITTED: 01Mar65 ENCL: 00 SUB CODE: NP, GP

NR REF SOV: 002 OTHER: 002

Card 2/2

ALEKSEYEV, V.; KAMYSHEVA, M.; SUVOROV, M.

Communist labor brigades are working to fulfill the seven-year plan. Muk.-elev. prom. 25 no.5:3-6 My '59. (MIRA 12:8)

1.Direktor Dnepropetrovskogo zavodouprovleniya No.1 (for Alekseyev). 2.Predsedatel' zavkoma Moskovskogo mel'nichnogo kombinata im. TSyuryupy (for Kamysheva). 3.Sekretar' partiynoy organizatsii Moskovskogo mel'nichnogo kombinata No.3 (for Suvorov).
(Grain milling)

SUVOROV, M.I.

Tin ores in intrusive rocks. Trudy VITR no.4:233-240 '61.
(MIRA 14:9)

(Tin ores)

87657

S/137/60/000/010/002/040
A006/A001

11.3950

Translation from: Referativnyy zhurnal, Metallurgiya, 1960, No. 10, p. 5, # 22408

AUTHORS: Kirillov, P.L., Subbotin, V.I., Suvorov, M.Ya., Troyanov, M.F.

TITLE: Investigation of Heat Transfer in a Tube to a Sodium-Potassium Alloy

PERIODICAL: V sb.: Vopr. teploobmena, Moscow, AN SSSR, 1959, pp. 80 - 95

TEXT: The authors studied heat transfer in a round Cu-tube to an eutectic 22% Na-78% K alloy. It was established that the value of the coefficient of heat transfer from the wall to the liquid metal increased with time and attained a stable value within about 800 hours of operation; this value is in a satisfactory agreement with the Martinella - Lyon (Martinella-Layon) theoretical formula $Nu = 7 + 0.0025\ Pe^{0.8}$.

A.N.

Translator's note: This is the full translation of the original Russian abstract.

Card 1/1

Heat Transfer in a Tube to a Sodium-Potassium Alloy and to Mercury

control. Search thermocouple may be let into the Na-K and Hg current respectively. For the purpose of measuring the electromotive force generated by the thermocouples the potentiometer PPTN-1 is used in conjunction with a mirror galvanometer M-21/4. The NaK circulates through filters and cooling trap, so that the oxygen content in the Na-K-circulation may be reduced down to 0.003 % by weight. On the basis of the experimental data the following conclusions may be drawn: 1) The heat transfer coefficients for Na-K were determined twice, viz.: a) from the wall temperatures of the measuring tube, and b) from the temperature distribution of the flowing Na-K. From both measurements it may be concluded that a contact resistivity to heat exists, which varies with time. The amount of the thermal contact resistivity depends on the oxygen content of the Na-K alloy. It is graphically represented as a function of time (Fig 5). 2) Measurement of the heat transfer coefficients of nickel (measuring tube material) on mercury shows that no thermal contact resistivity exists. Thus, the material of the contact surface influences heat transfer. 3) By using the mobile thermocouple it was possible to find out that the results are not falsified by

Card 2/3

SUVOROV, N. A.

"Experimental Investigations of the Stability of Levels." Thesis for degree of Cand. Technical Sci. Sub 20 Apr 50, Moscow Mining Inst imeni I.V. Stalin

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva, Jan-Dec. 1950.

TRUMBACHEV, V.G.; SUVOROV, N.A.

Data on the optical investigation of stresses in mine models. Trudy Inst.gor.dela 1:102-108 '54. (MLRA 7:12)
(Mining engineering) (Engineering models)

SUVOROV, N.A.

Rock pressure on the supports of level workings. Nauch. trudy KHGI no.6:131-141 '58. (MIRA 14:4)
(Rock pressure) (Mine timbering)

IZRAYELIT, B.Z.; SUVOROV, N.A.; VINNIK, I.V.; SILIN, Ye.M.

Anchor bolting at the Mine No.3 of the Yama Dolomite Combine. (MIRA 14:4)
Nauch. trudy KHGI no.6:143-154 '58.
(Yama region--Mine roof bolting)

SUVOROV, N.A., dots.

Analysis of the pocking action of an expansion-type bolt. Izv.vys. ucheb.zav.; gor.zhur. no.2:27-30 '60. (MIRA 14:5)

1. Khar'kovskiy gornyy institut.
(Mine roof bolting)

SUVOROV, N. A., dotsent

Calculating the load on a stope support. Izv. vys. ucheb. zav.; gor. zhur. 5 no.8:26-29 '62. (MIRA 15:10)

1. Khar'kovskiy gornyy institut. Rekomendovana kafedroy razrabotki mestorozhdeniy poleznykh iskopayemykh.

(Mine timbering)

SUVOROV, N.A., kand. tekhn. nauk; BOLOTOV, B.I., kand. tekhn. nauk; LAGUTTSEV, A.R., inzh.

Studying the effect of the wall advancement rate on the manifestation of rock pressure using models of equivalent materials. Izv. vys. ucheb. zav.; gor. zhur. 8 no.1:15-19 '65. (MIRA 18:3)

1. Khar'kovskiy institut gornogo mashinostroyeniya, avtomatiki i vychislitel'noy tekhniki. Rekomendovana kafedroy tekhnologii gornogo proizvodstva.

Suvorov, N.F.

SEMENOVA, M.P.; SUVOROV, N.F.

Vascular reflexes in peptic ulcer. Trudy Inst. fiziol. 3:252-259 '54.

1. Laboratoriya kortiko-vistseral'noy patologii, zaveduyushchiy I.T.Kurtsin. Klinicheskiy sanatoriy zheludochno-kishechnykh zabolevaniy VTsSPS, Leningrad.

(PEPTIC ULCER, physiology,
vasc. reflex)
(REFLEX,
vasc., in peptic ulcer)
(BLOOD VESSELS, physiology,
vasc. reflex in peptic ulcer)

SUVOROV, N.F.

SUVOROV, N.F.

Vascular reflexes in dogs in pathological conditions of the higher nervous function caused by interference of exterceptive and interoceptive conditioned reflexes. Trudy Inst. fiziol. 3:289-302 '54. (MLRA 8:2)

1. Laboratoriya kortiko-vistseral'noy patologii. Zaveduyushchiy I.T.Kurtsin.

(REFLEX,
vasc., eff. of conditioned reflex disord. in dogs)
(BLOOD VESSELS, physiology,
vasc. reflex, eff. of conditioned reflex disord. in dogs)
(REFLEX, CONDITIONED,
disord., eff. on vasc. reflexes in dogs)

SUVOROV, N.F.

SUVOROV, N.F.

Vascular and secretory reflexes in dogs in pathological conditions of the higher nervous function caused by interference with inhibitory and basic interoceptive conditioned reflexes. Trudy Inst. fiziol. 3: 323-334 '54. (MLRA 8:2)

1. Laboratoriya kortiko-vistseral'noy patologii. Zaveduyushchiy I.T.Kurtsin.

(REFLEX, CONDITIONED,
disord., eff. on salivary & vasc. reflexes)
(BLOOD VESSELS, physiology,
vosc. reflex, eff. of conditioned reflex disord.)
(REFLEX,
vasc., eff. of conditioned reflex disord.)

SUVOROV, N.F.

BIRKENGOF, N.L.; RASHEVSKAYA, Ye.F.; SUVOROV, N.F.

Vascular reflexes in neurasthenia and hysteria. Trudy Inst. fiziol. 3:369-376 '54. (MLRA 8:2)

1. Laboratoriya kortiko-vistseral'noy patologii, zaveduyushchiy I.T.Kurtsin i Fizioterapevticheskaya bol'nitsa Severo-zapadnogo vodzdravotdela, gl. vrach A.G.Krotov.

(NEURASTHENIA, physiology,
vasc. reflexes)
(HYSTERIA, physiology,
vasc. reflexes)
(REFLEX,
vasc., in hysteria & neurasthenia)
(BLOOD VESSELS, physiology,
vasc. reflex in hysteria & neurasthenia)

SUVOROV, N.F.

Vascular reflexes in dogs in various depths of sleep. Trudy Inst. fiziol. 3:412-418 '54. (MLRA 8:2)

1. Laboratoriya kortiko-vistseral'noy patologii. Zaveduyushchiy I.T. Kurtsin.

(BLOOD VESSELS, physiology,
vasc. reflex, eff. of sleep in dogs)
(REFLEX,
vasc., eff. of sleep in dogs)
(SLEEP, effects,
on vasc. reflex in dogs)

SUVOROV, N.F.

BOKERIYA, N.S.; SUVOROV, N.F.

Vascular reflexes from the uterus to mechanical, thermal, and chemical stimulation. Trudy Inst. fiziol. 3:480-489 '54. (MLRA 8:2)

1. Laboratoriya kortiko-vistseral'noy patologii. Zaveduyushchiy I.T.Kurtsin.

(UTERUS, physiology,
vasc. reflexes to various types of stimuli)
(REFLEX,
vasc. reflex from uterus to various types of stimuli)
(BLOOD VESSELS, physiology,
vasc. reflex from uterus to various types of stimuli)

T-12

USSR/Human and Animal Physiology. The Nervous System

Abs Jour : Ref Zhur - Biol., No 14, 1958, No 65740

Author : Suvorov N.F.
Inst : The Institute of Physiology of the Academy of Sciences of the USSR
Title : Vascular Reflexes in Dogs After Collision of Positive and Inhibitory Interoceptive Conditioned Reflexes

Orig Pub : Tr. In-ta fiziol. AN SSSR, 1957, 6, 409-418

Abstract : In three dogs with fistulas of the salivary duct, stomach, duodenum and ileocecal region, a stereotype of conditioned reflexes and differentiations was established in response to bells and also to mechanical, chemical and heat stimulation of duodenum and ileocecal area in the presence of reinforcement by infusion of acid or salt solution into the mouth. Then a collision of positive conditioned responses to stimulation of the duodenum and inhibitory conditioned responses to stimulation of the eleocecal area was produced. The amplitude of the conditioned reflexes declined, dif-

Card : 1/2

Lab of Cortico-Visceral Pathology

Suvorov, N. F.

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phtalazine,
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group II).
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thyroid function, and adrenocortical function. The evaluation of any aberrant function of the thyroid and adrenal glands included various laboratory parameters so that a total picture of the endocrine activity of these glands could be ascertained. Intra venous estrogen was used to induce ovulation only in those patients who had normal proliferative, thyroid and adrenal function, whether induced by appropriate hormonal therapy or present endogenously. Animal experiments will be quoted to show the effect of estrogen upon release of luteinizing hormone from the pituitary gland. The effect of estrogen upon luteinizing hormone secretion in the human will also be discussed based upon hormone excretion levels. The effect of intravenous estrogen (20 mg. of conjugated estrogen equine) in a series of 50 women with ovulatory defects induced ovulation in all who had normal proliferative, thyroid and adrenal function, providing there was no block to ovulation at the ovarian level. In the event that ovulation failed to occur after three cycles following intravenous injections of estrogen, the diagnosis of a thickened tunica of the ovary was made and confirmed by surgery in 18 patients, even though the classical enlarged polycystic ovaries were not observed. The clinical implications of this technique will be discussed.

KURZIN, I. T. and SUVOROV, N. F.: **Effects of higher nervous activity disturbances on cardiovascular functions.** *(Pavlov Inst. Physiol., USSR, Acad. Sc., Leningrad, Russia.)*

I. P. Pavlov's work on higher nervous activity in physiological and pathological conditions and its development in Bykov's work on cortico-visceral physiology and pathology have opened new perspectives for the studies of visceral functions under various conditions of cortical activity.

It was shown that in experiments on dogs with elaborated conditioned reflexes and well determined visceral functions disturbances of the higher nervous activity were accompanied by variations in the activity of the stomach, liver, pancreas, kidney as well as in the activity of the cardiovascular system. These changes result from overstrained cortical excitation or inhibition or from submitting the animal to proofs, exceeding its cortical mobility. These changes may also be due to exhaustion or functional weakening of cortical cells and cerebral centres. The changes mentioned, can be evoked by the action both of exteroceptive and interoceptive conditioned stimuli applied separately or in a complex. Finally, they may be provoked by collisions of conditioned vascular reflexes elaborated by direct stimulation of prefrontal and parietal cortical zones (by means of implanted electrodes). Disturbances of the higher nervous activity and of the cardiovascular activity can last from two to three months up to 1-3 years and even longer. During this period may be observed: a) disorders of the cardiac rhythm with the appearance of extrasystoles and troubles in the cardiac conduction system; b) a steady rise in the arterial blood pressure level (hypertension); c) changes in the volume pulse with the appearance of a typical conditioned and unconditioned vascular reactions, d) modifications in the rapidity of blood circulation in the viscera (as recorded by implanted thermoelectrodes in the vessels of the stomach) accompanied by vascular reactions of inert, asthenic, inhibitory or pervert and spastic type; e) periods of rise or fall of the permeability of hemato-tissue and hematoencephalic barriers (in experiments with radioisotope P^{32}).

The depth, the character and the duration of cardiovascular troubles are correlated to higher nervous activity disturbances. The normalisation of the higher nervous activity is accompanied by the recovering of cardiovascular system functions.

The data obtained permit to draw the following conclusion: disturbances of the higher nervous activity are accompanied by prolonged functional disorders in the cardiovascular system. It is possible that these disorders underlie those disturbances of the visceral organs which are observed in cortico-visceral pathology.

77

LABARCA, F.: **Urine excretion of an oxytocic substance in rats injected with renin.** *(Lab. Fisiol., Fac. Filos. Cienc. Educ. Univ. Chile, Chile.)*

The diuretic and natriuretic effects of renin have not been sufficiently explained, though it has been demonstrated that its mechanism on kidney resides in a decrease of the reabsorbent capacity of the tubule. This action has been attributed to the hy-

Abstracts from the Program of the Int'l. Congress of Physiological Sciences, Buenous Aires 9-15 Aug 1959.

SUVOROV, N.F.

Vascular reactions in dogs after interference with conditioned reflexes brought about by direct stimulation of the cerebral cortex. Nauch. soob. Inst. fiziol. AN SSSR no.1:107-109 '59. (MIRA 14:10)

1. Laboratoriya fortiko-vistseral'noy (zav. - I.T.Kurtsin) Instituta fiziologii imeni Pavlova AN SSSR.
(CONDITIONED RESPONSE) (CEREBRAL CORTEX)

SUVOROV, N.F.

Experimental neurosis resulting from the interference of conditioned reflexes to direct stimulation of the cerebral cortex. Trudy Inst. fiziol. 10:114-122 '62 (MIRA 17:3)

Experimental neurosis resulting from the interference of conditioned reflexes to direct stimulation of the cortex and the subcortex. Ibid.:123-131

1. Laboratoriya kortiko-vistseral'noy patologii (zav. - I.T. Kurtsin) Instituta fiziologii imeni Pavlova AN SSSR.

SHVARKOV, N.F.

Corticovisceral disorders caused by cutaneous stimulation of the mechanoreceptors of the stomach and orbital cortical area. Zhur. vys. nerv. deiat. 14 no. 4:652-661 Jl-Ag '64. (MIRA 17:12)

1. Laboratory of Corticovisceral Physiology and Pathology, Pavlov Institute of Physiology, U.S.S.R. Academy of Sciences, Leningrad.

SUVOROV, N.F.

Formation of experimental neurosis in dogs resulting from simultaneous stimulation of the subcortex and the mechanoreceptors of the stomach. Nauch.soob. Inst.fiziol. AN SSSR no.3:141-146 '65. (MIRA 18:5)

1. Laboratoriya kortiko-vistseral'noy fiziologii i patologii (zav. - I.T.Kurtsin) Instituta fiziologii imeni Pavlova AN SSSR.

SUVOROV, N.I.; BUSLOV, V.V.

Analysis of the exploitation of D_2^V and D_3^{II} layers of the Sokolovogorsk field and recommendations for improving it. Nauch.-tekh. sbor. po dob. nefti no.1:71-74 '58. (MIRA 15:9)

1. Vsesoyuznyy neftegazovyy nauchno-issledovatel'skiy institut.
(Sokolovogorsk region--Oil fields--Production methods)

SUVOROV, N. I. i GVOZDEVA, L. P.

24883. SUVOROV, N. I. i GVOZDEVA, L. P. Rastitel'nyye Resursy Nizoviy R. Ili. Vestnik Akad. Nauk Kazakh. SSR, 1949, No 6, S. 89-94 -- Bibliogr: 5 Nazv.

SO: Letopis' No. 33, 1949

Suvorov, N.I.

TIKHOV, G.A., redaktor; USANOVICH, M.I.; SUVOROV, N.I., kandidat biologicheskikh nauk, zamestitel' redaktora; KARIMOV, M.G., kandidat fiziko-matematicheskikh nauk; KUCHEROV, N.I., kandidat fiziko-matematicheskikh nauk; GORSHENIN, D.S.; FEDOROV, N.N., sekretar' redkollegii; RODOKINA, Z.P., tekhnicheskiy redaktor; RZHONDKOVSKAYA, L.S., redaktor.

[Discussion on the topic: Principal achievements of the astrobotany sector and the problem of the possibility of life on other planets (September 25-27, 1952)] Diskussiia na temu: osnovnye dostizheniia sektora astrobotaniki i vopros o vozmozhnosti zhizhi na drugikh planetakh (25-27 sentiabria 1952 g.) Alma-Ata, Izd-vo Akademii nauk Kazakh.SSR. 1953. 167 p.(Akademiia nauk Kazakhskoi SSR.Alma-Ata. Sektor astrobotaniki. Trudy v.2) (MLRA 10:1)

1. Deystvitel'nyy chlen Akademii nauk Kazakhskoy SSR (for Tikhov). 2. Chlen-korrespondent Akademii nauk Kazakhskoy SSR (for Usanovich). 3. Otvetstvennyy sekretar' redaktsii zhurnala "Vestnik Akademii nauk Kazakhskoy SSR" (for Gorshenin). 4.Referent fiziko-matematicheskogo otdeleniya Akademii nauk Kazakhskoy SSR (for Fedorov).
(Life on other planets)

Suvorov, N.I.

BAYDA, Kh.S.; SUVOROV, N.I.

General biological importance of astrobotanic investigations.
Trudy Sekt.astrobot. AN Kazakh.SSR. 1:18-24 '53. (MLRA 10:2)

(Life on other planets)

SUVOROV, N.I., kandidat biologicheskikh nauk.

The theories of Dokuchaev and Vil'iams as a theoretical basis for bio-geographical regional distribution. Vest.AN Kazakh. SSR 10 no.11:51-61 N '53. (MLRA 6:12)

1. Predstavlena chlenom-korrespondentom Akademii nauk Kazakhskoy SSR A.Kh.Moshanovym.
(Geographical distribution of animals and plants)

SUVOROV, N.I.

A new monograph on geobotany. ("Geobotany". B.A.Bykov. Reviewed by N.I.Suvorov). Vest.AN Kazakh.SSR 11 no.2:95-100 F '54. (MLRA 7:4)
(Phytogeography) (Bykov, B.A.)

SUVOROV, N.I.; PARSHINA, Z.S.

Hypothesis of the paleobotany of Mars. Vest.AN Kazakh.SSR 11 no.4: 98-102 Ap '54. (MLRA 7:5)

Predstavleno deystvitel'nym chlenom Akademii nauk KazSSR G.A.Tikhovym.
(Mars (Planet)) (Plurality of worlds) (Paleobotany)

SUVOROV, N.I.

USSR/ Biology - Anthropology

Card 1/1 Pub. 123 - 1/11

Authors : Suvorov, N. I., Cand. of Biol. Sc.

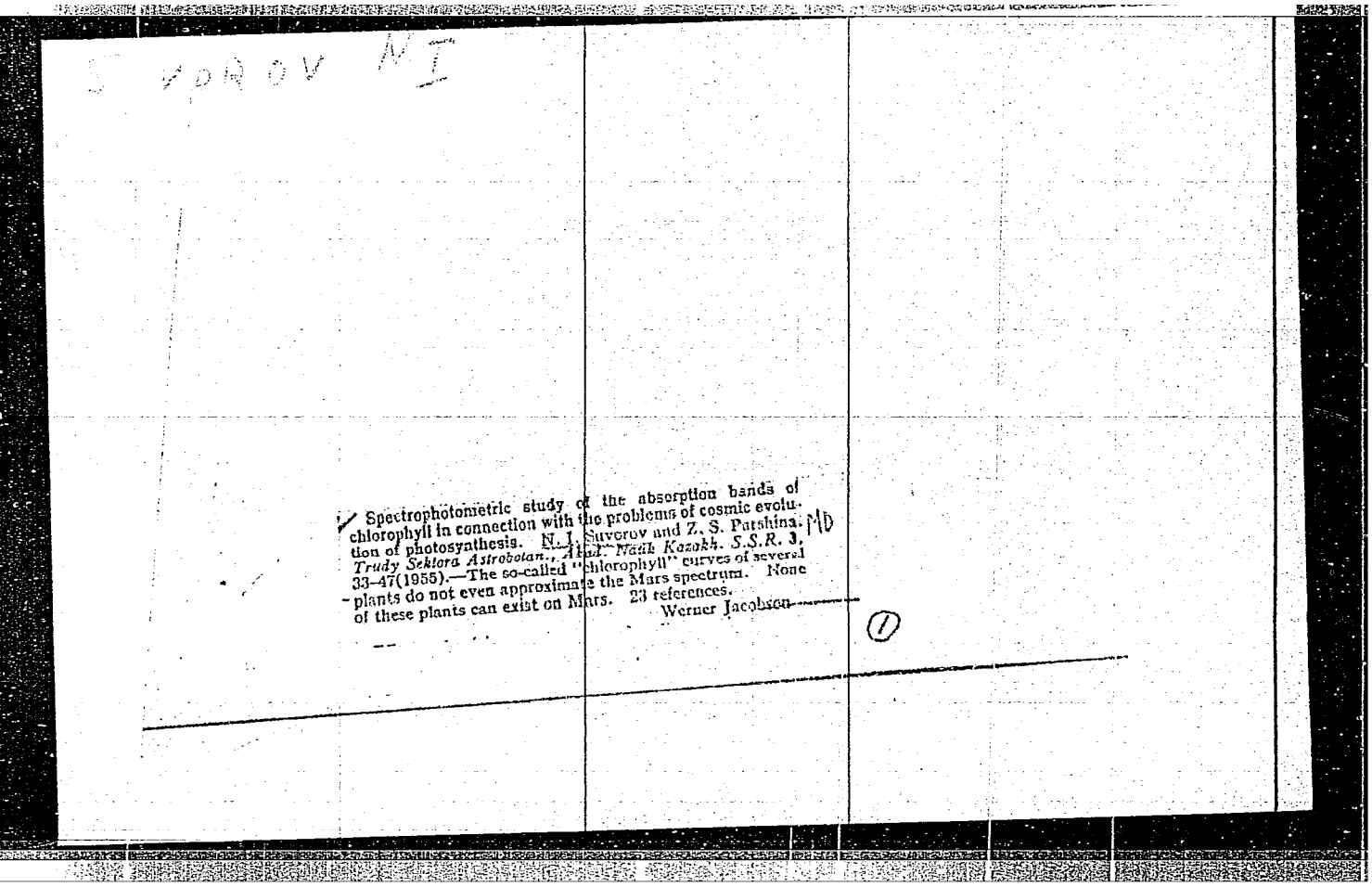
Title : Basic characteristics in the development of biological forms and biocenosis in anthropogeny

Periodical : Vest. AN kaz. SSR 2, 3 - 10, Feb 1955

Abstract : Lecture is presented on the development of biological forms and biocenosis in anthropogeny and the social development of human society on the earth. Twenty-three Russian and USSR references (1909 - 1955).

Institution: .....

Submitted: .....



SOROV MI

Spectrophotometric study of the absorption bands of chlorophyll in connection with the problems of cosmic evolution of photosynthesis. N. I. Suverov and Z. S. Parshina. *Trudy Sektora Astrobotan., Akad. Nauk Kazakh. S.S.R.* **3**, 33–47(1955).—The so-called "chlorophyll" curves of several plants do not even approximate the Mars spectrum. None of these plants can exist on Mars. 23 references.

Werner Jacobson

MD

(1)

SUVOROV, N.I., dotsent.

Astrobiology as a new segment of creative Darwinism. Trudy Sekt. astrobot.AN Kazakh.SSR 4:62-67 '55. (MLRA 9:12)
(Plurality of worlds) (Biology) (Evolution)

SUVOROV, N.I.

KRISHTOFOVICH, A.N. [deceased]; L'VOV, V.Ye.; MARKOV, A.V., professor; KOROLEV, A.V.; GOLOSNITSKIY, L.P.; OGORODNIKOV, K.F., professor; EYGENSON, M.S., professor; LOZIN-LOZINSKIY, L.K., professor; VOROB'YEV, A.G., professor; KOZLOVA, K.I.; KAZEMHOV, B.A.; SUSLOV, A.K.; GEL'FREYKH, G.B.; VASIL'YEV, O.B.; LICHKOV, B.L., professor; SYROMYATNIKOV; KUTYREVA, A.P.; KATTERFEL'D, G.N.; SYTINSKAYA, N.N.; SHARONOV, V.V.; SUVOROV, N.I.; KUCHEROV, N.I.; TIKHOV, G.A.; GORSHKOV, P.M.

Addresses by A.N.Krishtofovich and others. Trudy Sekt.astrobot.AN Kazakh.SSR 4:68-157 '55. (MLRA 9:12)

(Mars (Planet))

SUVOROV, N.I.

Geobotanical characteristics of forage lands in Kazakhstan in connection with tasks of agrometeorological service. Izv.AN Kazakh. SSR.Ser.biol.no.10:28-41 '55. (MLRA 9:4)

1.Institut botaniki AN KazSSR.
(KAZAKHSTAN--BOTANY, ECONOMIC)

SUVOROV, N.I., kandidat biologicheskikh nauk

Apply the agrobiological principle to methods of investigating the natural forage lands of Kazakhstan. Vest. AN Kazakh. SSR 11 no.5:3-9 My '55. (MIRA 8:8)

1. Predstavlena chlenom-korrespondentom AN KazSSR G.Z.Biyashevym
(Kazakhstan--Pastures and meadows)

SUVOROV, N.I., kandidat biologicheskikh nauk

Development of Michurin's theories in modern biology. Vest.AN Kazakh.SSR 11 no.10:46-55 O'55. (MLRA 9:1)
(Biology)

KUBANSKAYA, Zinaida Viktorovna; SUVOROV, N.I., otvetstvennyy redaktor; POGOZHEV, A.S., redaktor; ROROKINA, Z.P., tekhnicheskikh redaktor

[Vegetation and fodder resources of the Bet-Pak-Dala desert] Rastitel'nost' i kormovye resursy pustyni Bet-Pak-Daly. Alma-Ata, Izd-vo Akademii nauk Kazakhskoi SSR, 1956. 263 p. (MLRA 9:10)
(Bet-Pak-Dala--Botany)

K-1

USSR/Meadow Cultivation - The Meadow.

Abs Jour : Referat Zhur - Biologiya, No 16, 25 Aug 1957, 69143

1955 on the choice of the most effective grass mixtures of perennial grasses for sowing in South Pribalkhash.

Card 2/2

- 5 -

SUVOROV, N.I.

General biological significance of Michurin's teaching. Izv.AN Kazakh.SSR. Ser.biol. no.11:3-8 '56. (MLRA 10:2)

1. Institut botaniki Akademii nauk Kazakhskoy SSR.
(MICHURIN, IVAN VLADIMIROVICH, 1855-1935)
(GENETICS)

SUVOROV, N.I., kandidat biologicheskikh nauk.

Theoretical foundations of "The flora of Kazakhstan." Vest.AN Kazakh. SSR 12 no.10:104-107 O '56. (MLRA 9:12)
(Kazakhstan--Botany)

Suvorov, N. I.

3(1) PHASE I BOOK EXPLOITATION SOV/1836

Akademiya nauk Kazakhskoy SSR. Sektor astrobotaniki

Trudy, t. 5 (Transactions of the Astrobotanical Sector, Kazakh SSR. Academy of Sciences, Vol 5) Alma-Ata, Izd-vo AN Kazakhskoy SSR, 1957. 1,100 copies printed.

Eds.: L.S. Rzhondkovskaya and D.M. Glazyrina; Tech. Ed.: Z.P. Rorokina; Editorial Board: Sh.P. Darchiya, K.I. Kozlova (Secretary), N.I. Suvorov (Deputy Resp. Ed.), and G.A. Tikhov (Resp. Ed.).

PURPOSE: This book is intended for scientists engaged in the fields of astrobotany and astronomy.

COVERAGE: The book comprises 20 articles which deal primarily with spectrophotometry as a means for determining the absorption of light by plants. It also contains a short review of the foreign publications on astrobotany which, according to the publisher, has already grown into the more extensive domain of astrobiology.

Card 1/4

Transactions of the Astrobotanical Sector (Cont.) SOV/1836

Photos and charts accompany each article. No personalities are mentioned. Bibliography follows each article.

TABLE OF CONTENTS:

Card 2/4

AVAILABLE: Library of Congress
Card 4/4

MM/ad
6-19-59

USSR / General Division, Congresses, Conventions, Conferences A-4

Abs Jour : Ref Zhur - Biol., No 1, 1958, No 95

Author : Suvorov, N.I.

Inst : Not Given

Title : The Conference on the Problem of the Prognosis of the Conditions of Life on Other Planets

Orig Pub : Vestn. AN KazSSR, 1957, No 2, 63-70

Abstract : The conference took place in Moscow in December 1956, with astronomers and biologists participating. The contemporary knowledge of the conditions of life on other planets is summed up, the themes of complex research in preparation for future interplanetary travel are outlined, and it was proposed that a five year plan of scientific research be worked out, and that a decision be made concerning the necessity of creating a special Institute of Cosmic Biology.

Card : 1/1

SUVOROV, N.I., kandidat biologicheskikh nauk.

Charles Darwin as the founder of materialistic biology; on the 75th anniversary of his death. Vest. AN Kazakh. SSR 13 no.4: 49-53 Ap '57. (MLRA 10:6)

(Darwin, Charles, 1809-1882)

Suvorov, N.I.

SUVOROV, N.I.; GOROKHOVA, L.V.

Biocoenological observations in Muyun-Kum of the Kaskelen Valley, Alma-Ata Privince. Trudy Inst. bot. AN Kazakh. SSR 5:116-131 '57. (MLRA 10:9)
(Alma-Ata Province--Botany--Ecology)
(Alma-Ata Province--Insects)

SUVOROV, N.I., kand. biol. nauk.

The Moscow school of biologists and evolutionists of pre-Darwinian times; on the centennial of K.F. Rul'e's death. Vest. AN Kazakh. SSR 14 no.4:85-88 Ap '58. (MIRA 11:6)
(Rul'e, Karl Frantsevich 1914-1858)

SOV/31-59-2-13/17

30(1)

AUTHORS: Parshin, N.G. and Suvorov, N.I.

TITLE: The Transformation of Setaria Italica Into a New Species of Setaria Viridis (Prevrashcheniye mogara v novyy vid shchetinnika)

PERIODICAL: Vestnik Akademii nauk Kazakhskoy SSR, 1959, Nr 2 pp 107 - 115 (USSR)

ABSTRACT: This is a report on an experiment carried out by the Laboratory of Darwinism, Department of Botany of the Alma-Atinskiy gosudarstvennyy pedagogicheskiy institut imeni Abaya (Alma-Ata State Pedagogical Institute imeni Abay) to study the influence of various zonal ecological conditions on the growth of a plant with a previously impaired heredity. The primary material was a specimen of Setaria Italica var.mocharium Alf. supplied in 1946 by the Alma-Atinskaya gosudarstvennaya selektsionnaya stantsiya (Alma-Ata State Selection Station). The experiment can be roughly divided into two stages. During the first stage

Card 1/4

The Transformation of Setaria Italica Into a New Species of Setaria Viridis

zone of Alma-Ata and in a desert region south of the Balkhash Lake. The experience was crowned with final success in 1955, when in the cultivation zone of Alma-Ata, six plants were selected from the generation of the new form of Setaria viridis, which had developed from the changed seeds found in the axil clusters of Setaria Italica. These plants were sharply distinguished from the other plants by their large size and the comparatively dark color of their vegetative and generative organs. The posterity of the selected plants showed a great variety in the seed colors, the form of the racemes and other biomorphological characteristics. The new form of Setaria, in contrast to Setaria Italica and Setaria Viridis, absorbs a great quantity of light energy. As was shown by biochemical analysis, the seeds of

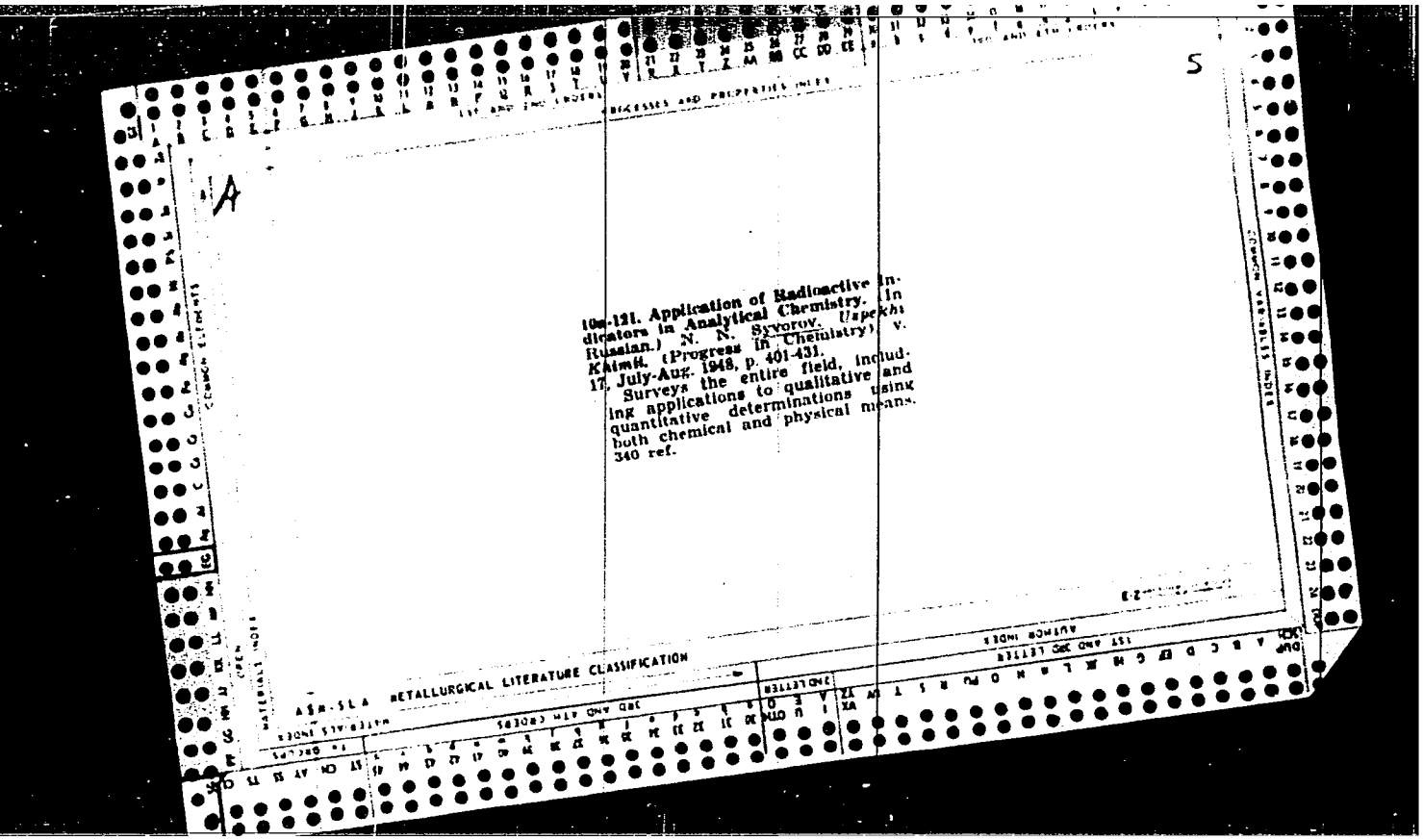
SUVOROV, N.I.

Problems of astrobiology at the internation Symposium on the Origin of Life on the Earth. Trudy Sekt. astrobot. AN Kazakh. SSR 8:258-262 '60. (MIRA 13:12)

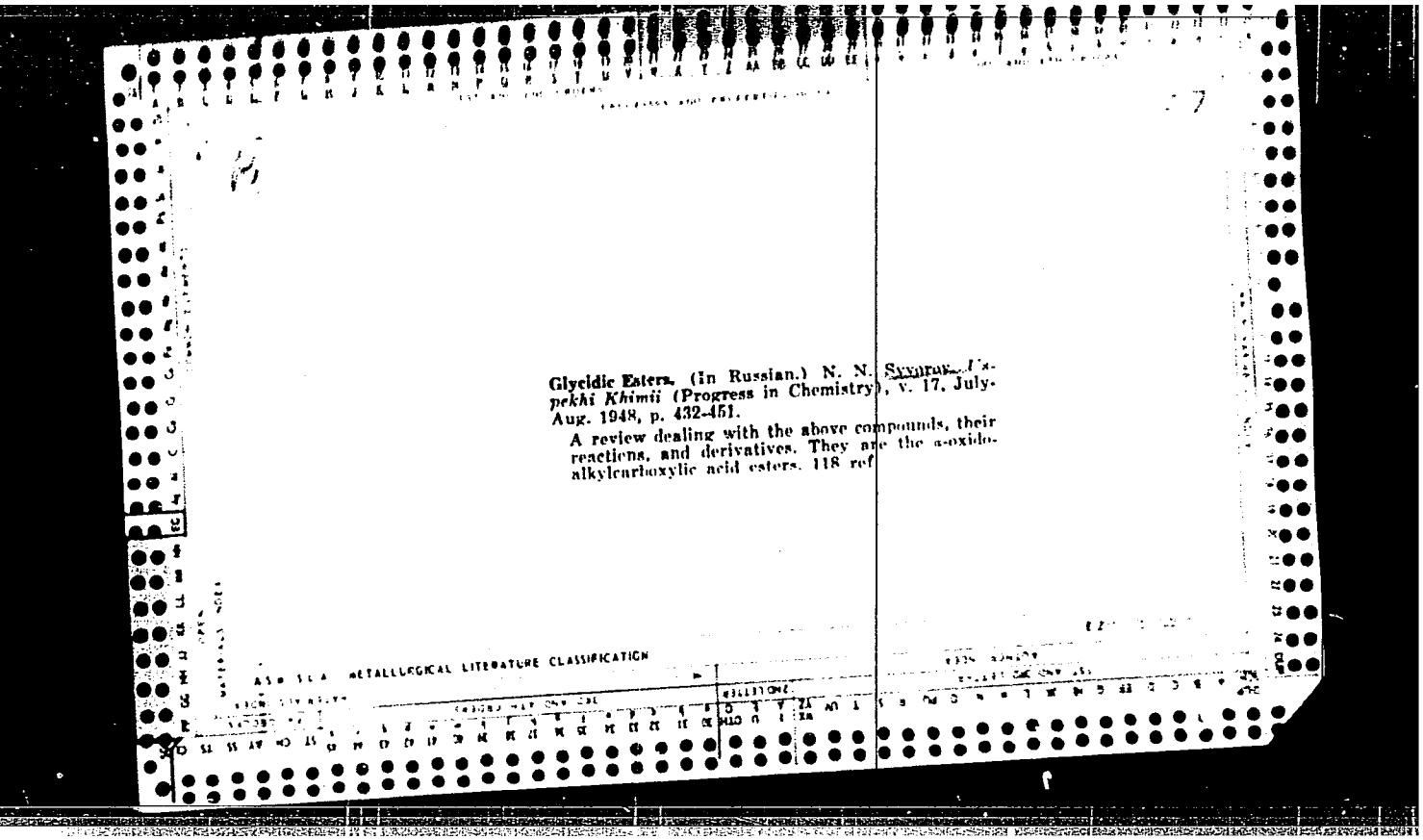
(Life on other planets)

ALEKSEYEV, Valeriy Andreyevich; SUVOROV, N.I., otv. red.; POMALEN'KAYA, O.T., red.

[Principles of Darwinism; historical and theoretical introduction] Osnovy darvinizma; istoricheskoe i teoreticheskoe vvedenie. Moskva, Izd-vo Mosk. univ., 1964. 439 p. (MIRA 17:11)



10w-121. Application of Radioactive Indicators in Analytical Chemistry. (In Russian.) N. N. Syvorov. *Uspekhi Khimii.* (Progress in Chemistry) v. 17, July-Aug. 1948, p. 401-431.
Surveys the entire field, including applications to qualitative and quantitative determinations using both chemical and physical means. 340 ref.



Glycidic Esters. (in Russian.) N. N. Syvorov. *Uspekhi Khimii* (Progress in Chemistry), v. 17, July-Aug. 1948, p. 432-451.

A review dealing with the above compounds, their reactions, and derivatives. They are the α-oxidoalkylcarboxylic acid esters. 118 ref

CA

10

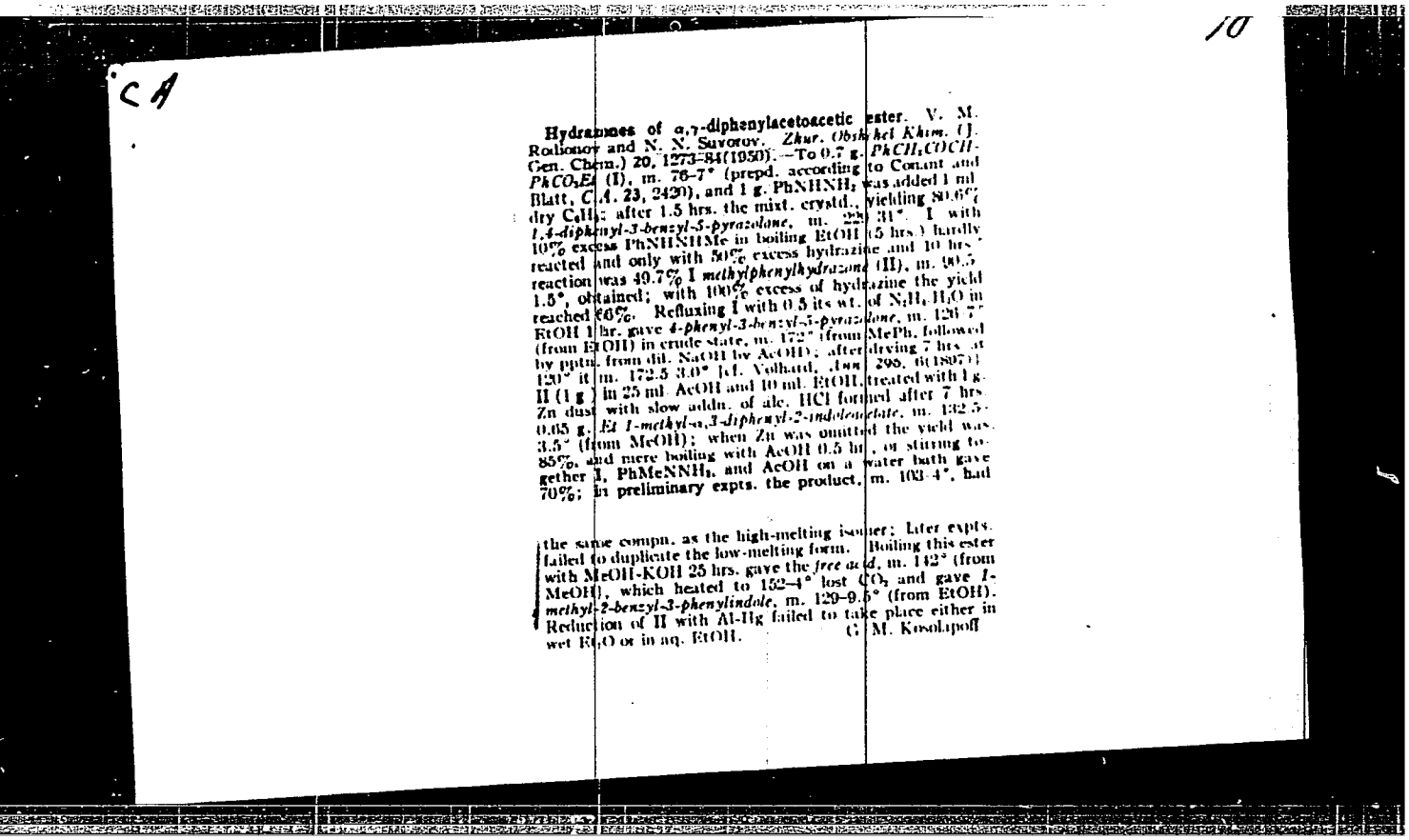
Syntheses in the series of Chelidonium majus alkaloids. V. M. Rodionov and N. N. Suvorov. *Doklady Akad. Nauk S.S.S.R.* 69, 189–92(1949).—$PhCH_2C(CO_2Et)_2$·$CHPhCO_2Et$ (5 g.) allowed to stand 2 weeks in 10 ml. 92% H_2SO_4 gave 2.02 g. *3,3-dicarbethoxy-2-phenyl-3,4-dihydro-1(2H)-naphthalenone*, m. 117.8–18.8° (from dil. EtOH); *oxime*, m. 170.5–1.5° (from ligroin). The ester (0.74 g.) heated 4 hrs. to 150–60° with 1 ml. Ac_2O and a trace of *p*-$MeC_6H_4SO_3H$ gave its *enol acetate* (0.2 g.), m. 125.3–5.8° (from AcOH, contg. a trace of H_2O). Hydrolysis of the ester or the enol acetate with 10% MeOH-NaOH gave *3,3-dicarboxy-2-phenyl-3,4-dihydro-1(2H)-naphthalenone*, decomp. 142–2.5° (from dil. EtOH), which, heated to 150–5°, gave the 3-carboxy analog, m. 142–3° (from MePh); *semicarbazone*, m. 230–1° (decompn.). Refluxing the dicarboxy deriv. (1.5 g.) with 15 ml. 10% NaOH and 6 ml. EtOH 2 hrs., followed by the thermal decarboxylation at 150° and heating with EtOH in the presence of H_2SO_4 4 hrs. at reflux, gave 54% *3-carbethoxy-2-phenyl-3,4-dihydro-1(2H)-naphthalenone*, m. 90–1° (from EtOH); *oxime*, m. 185–7° (from EtOH).

G. M. Kosolapoff

SUVOROV, N. N.

"Synthetic Investigations in the Field of the Alkaloids of Celandine (Chelidonium majus L)." Thesis fro degree of Cand. Chemical Sci. Sub 29 Dec 50, Inst of Organic Chemistry, Acad Sci USSR

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva, Jan-Dec 1950.



CA

10

Hydrazones of α,γ-diphenylacetoacetic ester. V. M. Rodionov and N. N. Suvorov. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 1273–84(1950).—To 0.7 g. $PhCH_2COCH(CO_2Et)_2$ (I), m. 76–7° (prepd. according to Conant and Blatt, *C.A.* 23, 2420), and 1 g. $PhNHNH_2$ was added 1 ml. dry C_6H_6; after 1.5 hrs. the mixt. crystd., yielding 80.6% *1,4-diphenyl-3-benzyl-5-pyrazolone*, m. 228–31°. I with 10% excess $PhNHNHMe$ in boiling EtOH (5 hrs.) hardly reacted and only with 50% excess hydrazine and 10 hrs.' reaction was 49.7% I *methylphenylhydrazone* (II), m. 90.5–1.5°, obtained; with 100% excess of hydrazine the yield reached 66%. Refluxing I with 0.5 its wt. of $N_2H_4.H_2O$ in EtOH 1 hr. gave *4-phenyl-3-benzyl-5-pyrazolone*, m. 126.7° (from EtOH) in crude state, m. 172° (from MePh, followed by pptn. from dil. NaOH by AcOH); after drying 7 hrs. at 120° it m. 172.5–3.0° [cf. Vollhard, *Ann.* 296, 6(1897)]. II (1 g.) in 25 ml. AcOH and 10 ml. EtOH, treated with 1 g. Zn dust with slow addn. of alc. HCl formed after 7 hrs. 0.65 g. *Et 1-methyl-α,3-diphenyl-2-indolecarboxylate*, m. 132.5–3.5° (from MeOH); when Zn was omitted the yield was 85%, and mere boiling with AcOH 0.5 hr., or stirring together I, $PhMeNNH_2$, and AcOH on a water bath gave 70%; in preliminary expts. the product, m. 103–4°, had the same compn. as the high-melting isomer; later expts. failed to duplicate the low-melting form. Boiling this ester with MeOH-KOH 25 hrs. gave the *free acid*, m. 142° (from MeOH), which heated to 152–4° lost CO_2 and gave *1-methyl-2-benzyl-3-phenylindole*, m. 129–9.5° (from EtOH). Reduction of II with Al-Hg failed to take place either in wet Et_2O or in aq. EtOH.

G. M. Kosolapoff

Chem A

10

Synthetic studies in the alkaloid series. V. M. Rodionov and N. S. Suvorov. *Doklady Akad. Nauk S.S.S.R.* 75, 43–5(1950); cf. *C.A.* 44, 2344e.—As an approach to the synthesis of alkaloids with benzophenanthridine nucleus, the following synthesis was carried out from *3,3-dicarbethoxy-3,4-dihydro-2-phenyl-1-(2H)-naphthalenone* (I). Refluxing 7 g. I and 14 g. NH_2OH·HCl 50 hrs. with 35 ml. dry pyridine followed by treatment with Et_2O and dil. HCl, gave 75% of the *oxime*, m. 170.5–1.5° (from C_6H_6-heptane). This reduced with Zn dust in EtOH-HCl over 30 hrs., dild. with H_2O, extd. with Et_2O, cooled, treated with excess KOH (at 5°), and extd. with Et_2O gave *3,3-dicarbethoxy-2-phenyl-1-amino-1,2,3,4-tetrahydronaphthalene* (isolated as the *HCl salt*, m. 203–6°); the Et_2O mother liquor on addn. of petr. ether yields some of the corresponding *lactam*, m. 185–6°, which is better prepd. by Zn-EtOH reduction, as above, followed by addn. of 95% HCO_2H to the Et_2O ext.; the *lactam*, $C_{21}H_{19}O_3N$, is that of *Et 1-amino-3-carbethoxy-2-phenyl-1,2,3,4-tetrahydro-3-naphthoate*. Formylation of the amino ester with EtO_2CH or HCO_2Ac yields either the lactam or its mixt. with the *N formyl deriv.* Boiling 5.4 g. oxime, 10 g. Zn dust, and 75 ml. 95% HCO_2H 20 hrs., addn. of 5 g. Zn dust, further refluxing for 2½ hrs., addn. of 50 ml. dry MePh, distn. of the solvents over 2 hrs. with continuous replenishment of the MePh, concn., extn. with Et_2O, washing the ext. with H_2O and $NaHCO_3$, concn., soln. of the residue in C_6H_6, and addn. of hexane, gave 0.4 g. *3,3-dicarbethoxy-2-phenyl-1-formamido-1,2,3,4-tetrahydronaphthalene*, m. 141–2° (from MePh). This (0.75 g.) heated with 1.5 ml. $POCl_3$ in MePh 15 min., and treated with ice, NH_4OH and Et_2O, gave on evapn. 50 mg. *11,11-dicarbethoxy-4b,10b,11,12-tetrahydrobenzo[c]phenanthridine* (*C.A.* numbering), yellow, m. 190–1° (from EtOH). The prepn. is the starting link for synthesis of chelidonine-like alkaloids.

G. M. Kosolapoff

1957

SUVOROV, N. N.

Chem Abs
V 48 25 Jan 54

Organic Chem

Diethyl 1,2,3,4-tetrahydro-1-oxo-2-phenyl-3,3-naphthalenedicarboxylate. V. M. Rodionov, N. N. Suvorov, and L. V. Smagatov. *Akad. Nauk S.S.S.R., Inst. Org. Khim., Sintezy Org. Soedinenii, Sbornik* 2, 94–7(1952); cf. *C.A.* 44, 2504e.—To 150 ml. abs. EtOH is added 6.75 g. sliced Na and the resulting hot soln. is treated slowly with 78.5 g. $PhCH_2CH(CO_2Et)_2$. The mixt. is refluxed on oil bath while 75 g. $PhCHBrCO_2Et$ is added to it dropwise and the refluxing with stirring is continued 15 hrs. until the mixt. is no longer alk. to litmus. EtOH is distd. and the residue dild. with 50 ml. H_2O and 100 ml. satd. aq. NaCl. After stirring to dissolve NaBr ppt., the mixt. is extd. with Et_2O (filtration may be necessary to break emulsions) and the aq. layer is extd. twice with Et_2O. The combined exts. yield an unstated amt. of *$PhCH_2C(CO_2Et)_2CHPhCO_2Et$*, b. about 200°, m. 46–7°. To 6 g. of this ester is added 15 ml. 92% H_2SO_4 and the mixt. allowed to stand 14 days in closed vessel; after pouring on ice the mixt. is extd. with Et_2O, the ext. is washed with satd. NaCl soln., followed by 10% Na_2CO_3 (1–1.5 l. Et_2O is needed), again with satd. NaCl, dried and concd. yielding 40–5% *di-Et 1,2,3,4-tetrahydro-1-oxo-2-phenyl-3,3-naphthalenedicarboxylate*, m. 117–18°, after washing with petr. ether and cold EtOH. Hydrolysis with aq. alc. NaOH yields the *dicarboxylic acid*, m. 142–2.5°.

G. M. Kosolapoff

SUVOROV, N.N.

Chem Abs

V-48 25 Jan 54

Organic Chem

Chem

1,2,3,4-Tetrahydro-1-oxo-2-phenyl-3-naphthalenecarboxylic acid. V. M. Rodionov, N. N. Suvorov, and L. V. Sharalov. *Akad. Nauk S.S.S.R., Inst. Org. Khim., Sintezy Org. Soedinenii, Sbornik* 2, 138–9(1952).—Di-Et 1,2,3,4-tetrahydro-1-oxo-2-phenyl-3,3'-naphthalenedicarboxylate (I) (5 g.) is refluxed with 50 ml. 10% NaOH and 20 ml. EtOH 2 hrs.; EtOH is distd. and the residue dild. with H_2O and filtered. The filtrate acidified with HCl to Congo red yields a ppt. of the free *dicarboxylic acid*. This heated at 150–60°, until CO_2 evolution stops, gives title compd. (II), isolated by soln. of the residue in 20 ml. hot MePh and addn. of 10 ml. hot heptane. The acid is obtained in 66% yield, m. 139–41° (pure, m. 142–3° (from MePh)]. The crude product is directly used below. The product formed from 2.85 g. (I) is refluxed 4 hrs. with 30 ml. abs. EtOH and 1.2 ml. concd. H_2SO_4; after cooling with ice there is formed 1.4 g. II *Et ester* (III), m. 89–9.5°; 0.35 g. can be obtained by concn. of the residual soln. After washing with cold EtOH there is obtained 81% yield III, m. 90–1° (from EtOH) (cf. *C.A.* 44, 2504e). G. M. K.

AF 7-14-54

SUVOROV, N.N.

(5)

Chem Abs V48
1-25-54
Organic Chemistry

Ethyl α-bromophenylacetate. V. M. Rodionov, N. N. Suvorov, and K. S. Mikhailov. *Akad. Nauk S.S.S.R. Inst., Org. Khim., Sintezy Org. Soedinenii, Sbornik* 2, 162–3(1952); cf. *C.A.* 1, 2702.—A mixt. of 275 g. $PhCH_2CO_2H$ and 15 g. red P is dried several days over $CaCl_2$. It is then treated in a reflux app. with 200 g. dry Br, heated carefully on a steam bath while 320 g. Br is added to it with shaking, and heated 2.5 hrs. longer until Br vapors are no longer evident in the condenser. On cooling the mixt. is dild. with 200 ml. abs. EtOH and allowed to stand overnight, then is heated 1 hr. on a steam bath. After diln. with H_2O and salting out with NaCl, with extn. of the aq. layer with $CHCl_3$, the combined org. layer is filtered by suction to remove tar, washed with H_2O and 5% Na_2CO_3, dried, and distd. yielding 75% $PhCHBrCO_2Et$, b_2 103–4°, b_{10} 141–2°, d_{20} 1.386, $n^{20}D$ 1.5395. The ester is a lacrimator.

G. M. Kosolapoff

MF
1-14-54

SUVOROV N. N.

USSR/Chemistry - Pharmaceuticals Feb 52
Alkaloids

"Synthesis of 6-Carboxy-11-methyl-5, 6, 13, 14-tetrahydro-1, 2-benzophenanthridine (I)," Acad V. M. Rodionov, N. N. Suvorov, and L. V. Shagalov

"DAN SSSR" Vol 82, No 5, pp 731 - 734

(I) was synthesized with a theoretical yield of 75%. It has a structure similar to that of the alkaloid helidonine.

USSR/Chemistry - Plant Growth Stimulants 11 Jun 52

"The Synthesis of Methyl-Substituted gamma-(3-Indolyl)-Butyric Acids," N. N. Suvorov, V. K. Antonov

"Dok Ak Nauk SSSR" Vol LXXXIV, No 5, pp 971 - 974

Since 1948, work on the synthesis of gamma-(3-indolyl)-butyric acids has been systematically going on at the Chair of Org Chem, Moscow Chem-Technol Inst imeni D. I. Mendeleyev under the direction of Acad V. M. Rodionov for the purpose of explaining the connection between the structure of these compd and their physiol activity. In 1949 a general method for the synthesis of gamma-(3-indolyl)-butyric acids was worked out. 223T14

(1)

This method was used in the present work for the synthesis of methyl substituted gamma-(3-indolyl)-butyric acids. All of the methylindolylbutyric acids were tested as stimulants for root growth in bean buds at the Inst of Plant Physiol imeni K. A. Timiryazev, Acad Sci USSR. These tests showed that gamma-[3(2-methylindolyl)]-butyric acid is an active stimulant for root growth and by activity is close to gamma-(3-indolyl)-butyric acid. Gamma-[3(7-methylindolyl)]-butyric acid brings on unusually strong fission of the stalks and not only does not stimulate, but retards root growth. Gamma-[3(1-methyl- and 2-methylindolyl)]-butyric acids do not act on the stalks. It may be noted that substitution of hydrogen at the

223T14

(2)

SUVOROV, N. N.

methyl group in the benzene ring of gamma-(3-indolyl)-butyric acid results in physiologically active compds; analogous substitution in the pyrrole ring results in loss of physiol activity. Presented by Acad V. M. Rodionov 7 Apr 52. 223T14

SUVOROV, N. N.

USSR/Chemistry - Growth Stimulants Jul 53

"Synthesis of Some Chlorophenoxy Derivatives," V. P. Mamayev, N. N. Suvorov, and V. I. Gunar, Moscow Chem-Tech Inst im D. I. Mendeleyev

Zhur Obshch Khim, Vol 23, No 7, pp 1206-1209

Synthesized the following: α-(4-chlorophenoxy)-phenylacetic acid, α-(2,4-dichlorophenoxy)-phenylacetic acid, α-(2,5-dichlorophenoxy)-phenylacetic acid, γ-(4-chlorophenoxy)-crotonic acid, γ-(2,4-dichlorophenoxy)-crotonic acid, γ-(2,5-dichlorophenoxy)-crotonic acid, and 2,4-dichlorophenoxyace-tone.

272T19

Suvorov, N.N.

Synthesis of halogen-substituted γ-(3-indolyl)butyric acids. N. N. Suvorov, V. P. Mamaev, and L. B. Shagalov. [illegible] — Refluxing [illegible]

[illegible]

[illegible] and extn. with Et_2O, 28.5% *Et* γ-[illegible] *ate*, m. 68.5–9.5°, this refluxed [illegible] gave 100% *free acid*, m. [illegible] (from MePh). Similarly *p*-$ClC_6H_4NHNH_2$ gave 27% *Et* γ-[3-(5-chloroindolyl)]*butyr*[illegible] *ate* m. [illegible] (from [illegible]) which gave [illegible] *free acid* m. 139.5–40° (from MePh). [illegible] gave 9.1% *Et* γ-[3-(5-bromoindolyl)]*butyrate* [illegible] (from heptane), which gave 100% *free acid* m. 146–7° (from MePh). Similarly was obtained 5.1% *Et* γ-[3-(5-iodoindolyl)]*butyrate*, m. 86–7.5° (from C_6H_6-heptane), yielding 100% *free acid*, m. 154.5–5.5° (from MePh). The reaction of *m*-$ClC_6H_4NHNH_2$ gave 24% *mixed Et* γ-[3-(4-chloro- and 6-chloroindolyl)]*butyrates*, $b_{0.1}$ 205–24°, m. 55–7°, which were sepd. by chromatographic adsorption on Al_2O_3 from C_6H_6 and elution with the same solvent, yielding the 2 *isomers*, m. 82–3° and 68–9°; the identity of each is unknown. Hydrolysis gave the *free acids*, m. 145–6.5° and 135.5–7.0°, resp. Hydrolysis of the mixed esters gave the mixed free acids, m. 121–2°. *o*-$ClC_6H_4NHNH_2$ similarly gave 18.6% *Et* γ-[3-(7-chlorindolyl)]*butyrate*, m. 63.5–4.5°, which gave the *free acid*, m. 137–7.5° (from MePh-heptane).

G. M. Kosolapoff

SUKOROV, N.N.

6

Synthesis of phenyl-substituted 4-(3-indolyl)butyric acids. N. N. Suvorov, V. K. Antonov, and L. M. Rokhlin (D. I. Mendeleev Chem.-Technol. Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* 91, 1345–8(1953); cf. *C.A.* 47, 3291d. —Several phenylindolylbutyric acids were prepd. for tests as plant-growth stimulators. $EtO_2C(CH_2)_4CHO$ (I), b_4 86–8°, $n^{25}D$ 1.4316, d_4 0.9994, was obtained from cyclohexanone by oxidation with $Pb(OAc)_4$ in abs. EtOH–C_6H_6. A mixt. of 5.4 g. I and 6.9 g. Ph_2NNH_2 in 20 ml. abs. EtOH kept 24 hrs., treated with 2.8 ml. coned. H_2SO_4 in 30 ml. abs. EtOH, refluxed 4 hrs., cooled, poured on ice, and extd. with Et_2O gave 48% *Et 4-(1-phenyl-3-indolyl)butyrate*, b_3 207–10°, $n^{25}D$ 1.5944, which, refluxed 1 hr. with KOH in abs. EtOH, gave 90% free *acid*, m. 134.5–5.0° (from EtOH). Refluxing 3.1 g. $Bz(CH_2)_4CO_2H$, 2.16 g. $PhNHNH_2.HCl$, 12 ml. abs. EtOH, and 1.2 ml. coned. H_2SO_4 4 hrs., cooling, and pouring on ice gave 82% *Et 4-(2-phenyl-3-indolyl)butyrate*, m. 108.5–9.5° (from heptane), sapond. with alc. KOH to 80% free *acid*, m. 138–9°. Similarly, *p*-$MeC_6H_4CO(CH_2)_4$-CO_2H gave 70% *Et 4-(2-p-tolyl-3-indolyl)butyrate*, m. 102–3° (from heptane), which with alc. KOH gave 88% free *acid*, m. 137.5–8.0° (from 80% MeOH). Refluxing 3.5 g. *p*-$PhC_6H_4NHNH_2$ with 3 g. I in EtOH 1.5 hrs., letting the soln. stand 24 hrs., concg., and refluxing the residue 16 hrs. with 4 ml. coned. H_2SO_4 in 40 ml. abs. EtOH gave 13% *Et 4-(5-phenyl-3-indolyl)butyrate*, b_3 195–202°, m. 105.5–7° (from dil. EtOH), sapond. to 78% free acid, m. 151.5–2.5°. The latter was an active *plant-growth stimulant* (root-growth test), but the 3-Ph analog was weakly active and the 2-Ph or 2-tolyl derivs. were completely inactive. G. M. K.

(2)

SUVOROV, N.N., kandidat khimicheskikh nauk.

Cortisone. Znan. sila no.11:12-14 N '54. (MLRA 8:1)
(Cortisone)

SUVOROV, N.M.

USSR/Chemistry - Synthesis

Card 1/1 Pub. 22 - 27/51

Authors : Suvorov, N. N.; Mamayev, V. P.; and Shagalov, L. B.

Title : Synthesis of 5-alkoxy- and 5-aryloxy-gamma-3-indolylbutyric acids

Periodical : Dok. AN SSSR 101/1, 103-106, Mar 1, 1955

Abstract : The synthesis of alkoxy and aryloxy-indolylbutyric acids with the aid of the E. Fischer reaction is described. The synthesis of the acids was realized in the presence of anhydrous phosphoric acid in alcohol solutions at the boiling point of the latter. The stimulating effect of the acids was tested on various vegetable plants with good results. Eight references: 3 USSR, 1 French, 3 USA and 1 German (1886-1954).

Institution : The D. I. Mendeleyev Chem. Tech. Institute Moscow

Presented by : Academician I. P. Lazarev, September 27, 1954

SUVOROV, N. N.

USSR/ Chemistry

Card 1/1 Pub. 22 - 20/51

Authors : Mamayev, V. P.; Suvorov, N. N.; and Rokhlin, E. M.

Title : Synthesis of beta-(2-thienyl)-beta-alanine and some of its derivatives

Periodical : Dok. AN SSSR 101/2, 269-271, Mar 11, 1955

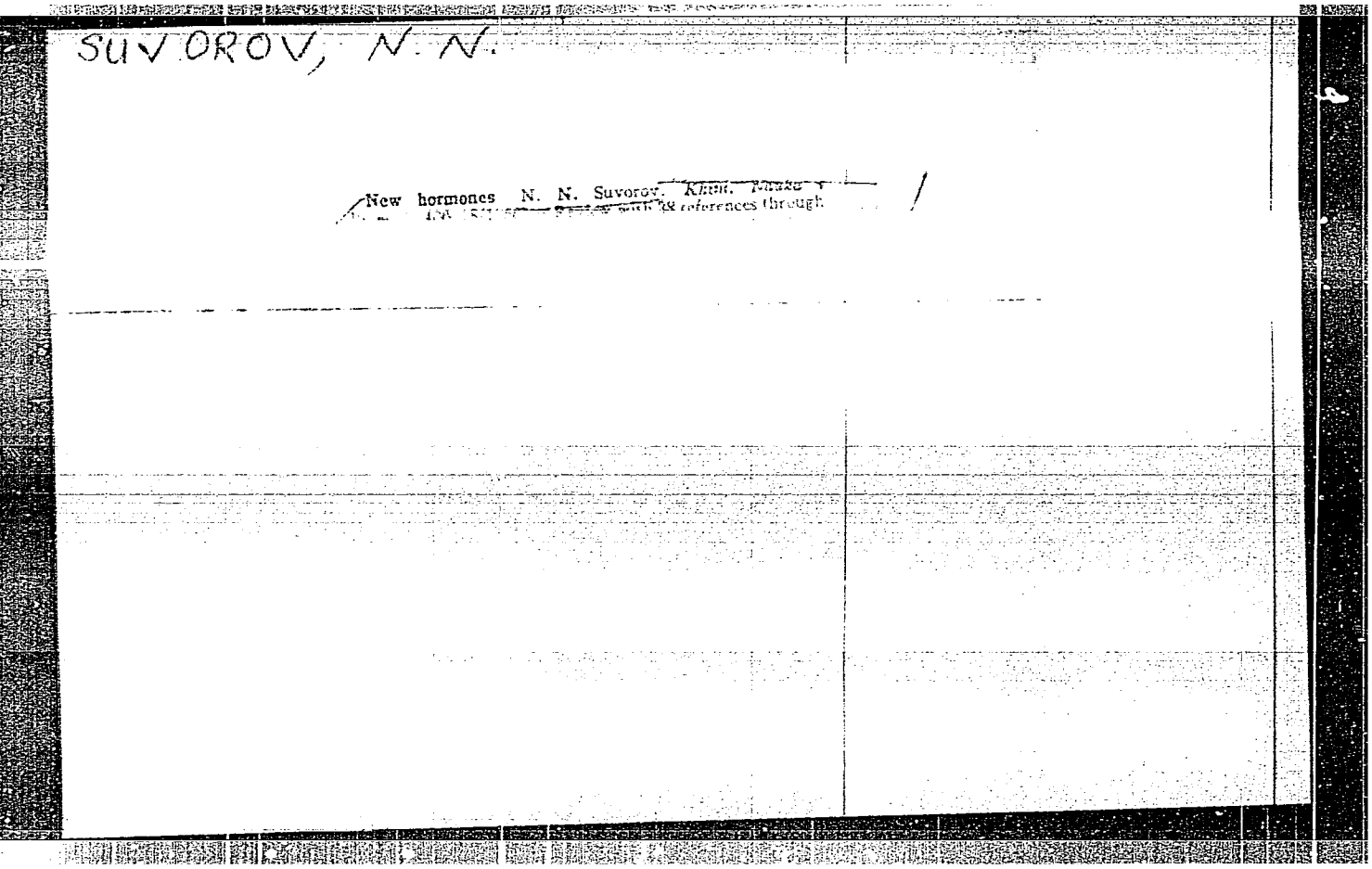
Abstract : The synthesis of beta-(2-thienyl)-beta-alanine from thiophene-2-aldehyde is described. The method of obtaining these compounds and their derivatives is based on the reaction of homologous aldehydes with malonic acid in the presence of spirits of ammonia. Nine references: 4 USSR, 4 USA and 1 German (1912-1953).

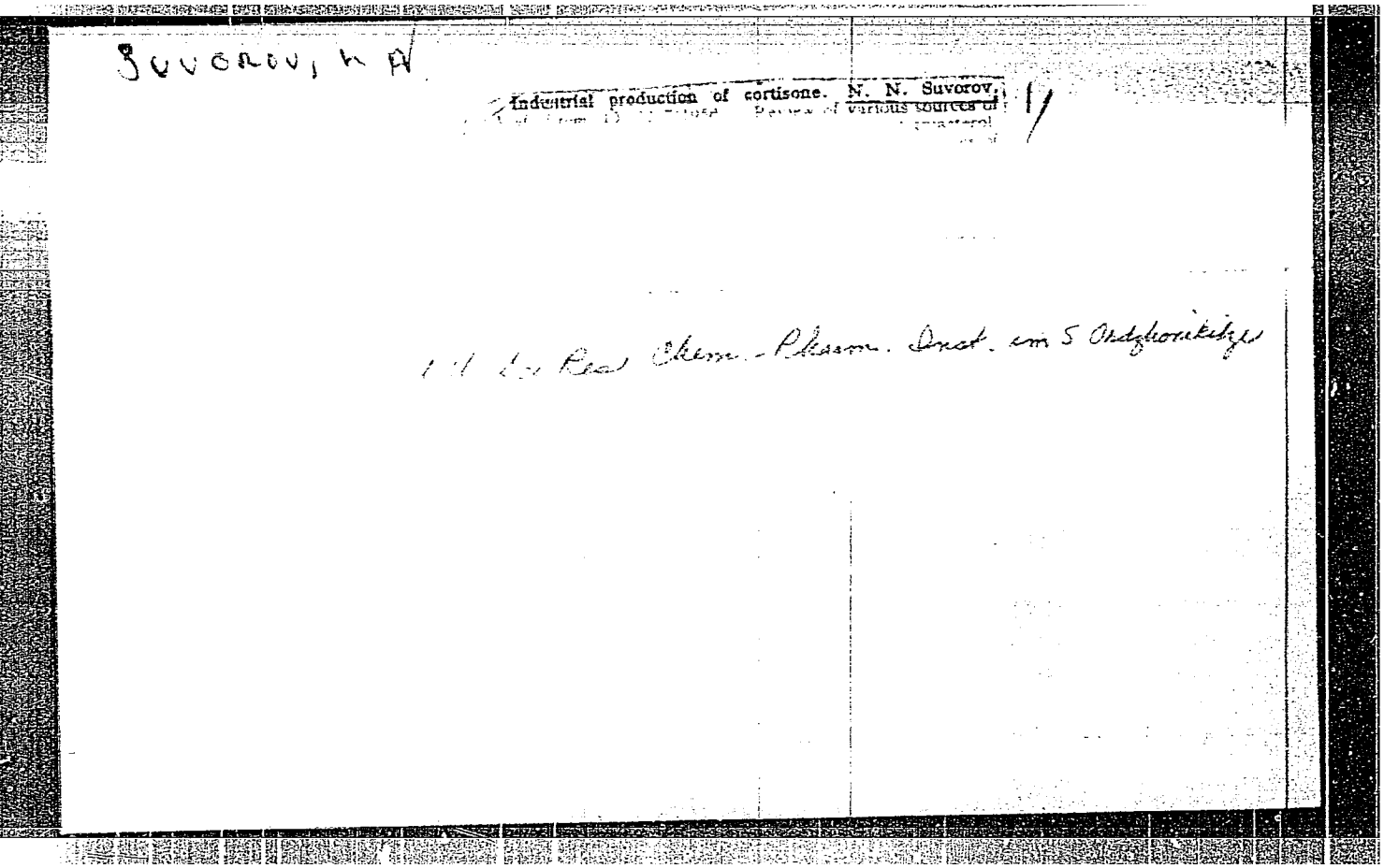
Institution : The D. I. Mendeleyev Chemical Technological Institute, Moscow

Presented by: Academician I. N. Nazarov, September 24, 1954

HENRY, Thomas Anderson; DITKOVSKIY, D.P. [translator]; SUVOROV, N.N., [translator]; RODIONOV, V.M., akademik, redaktor [deceased]; VOL'FSON, N.S., doktor khimicheskikh nauk, redaktor; LEVINA, E.M., otvetstvennyy redaktor; SHPAK, Ye.G., tekhnicheskiy redaktor

[The plant alkaloids. Translated from the English] Khimiia rastitel'nykh alkoloidov. Perevod s angliiskogo. Pod red. V.M. Rodionova i N.S.Vul'fsona. Moskva, Gos. nauchno-tekhn. izd-vo. khim. lit-ry, 1956. 904 p. (MLRA 10:1)
(Alkaloids)





Suvorov, N N

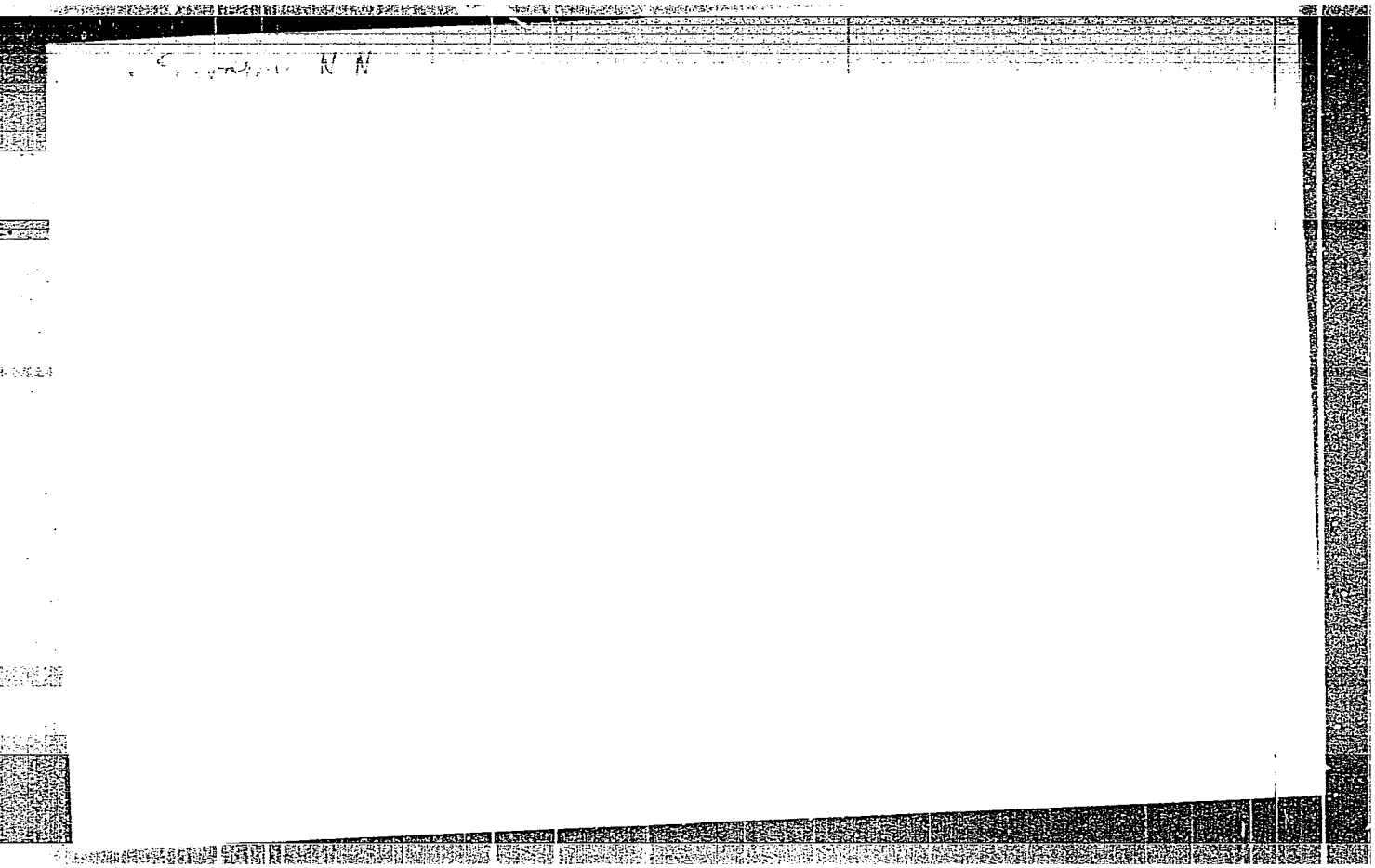
Industrial production of cortisone. N. N. Suvorov. 1/
[illegible] of various sources of [illegible]

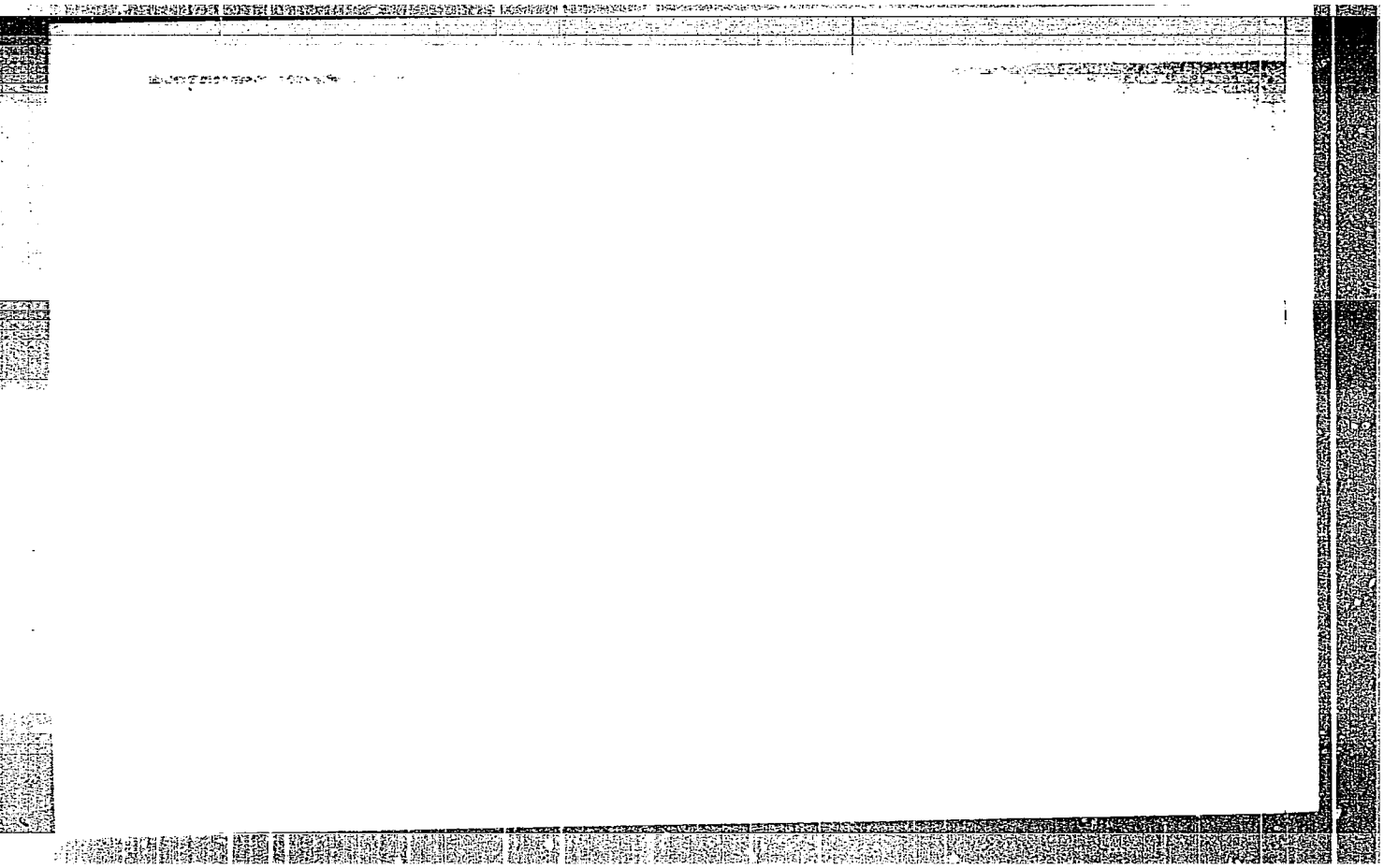
1/1 Zh Prikl Khim - Plasm. Orat. im S Ordzhonikidze

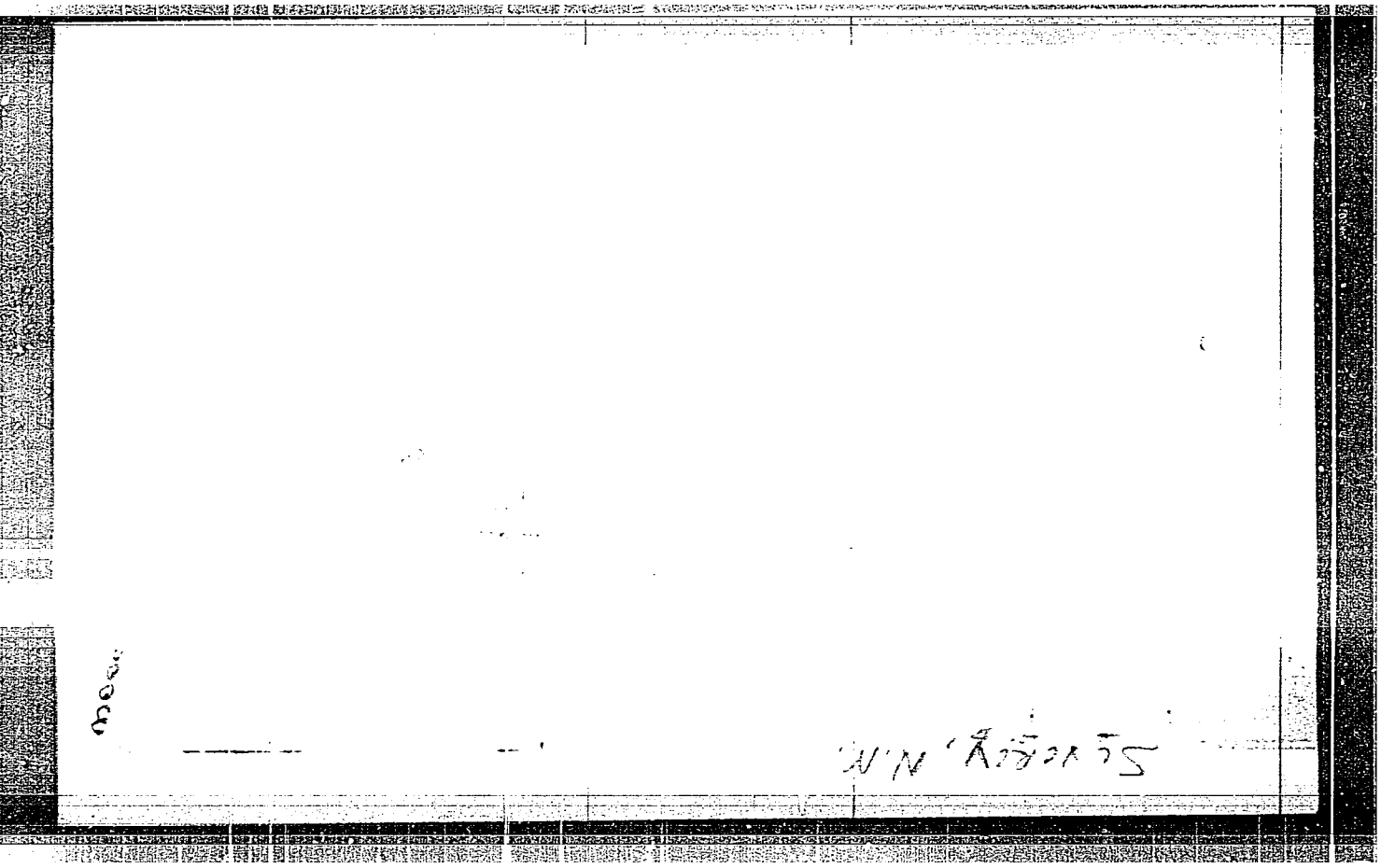
MAMAYEV, V.P.; SUVOROV, N.N.

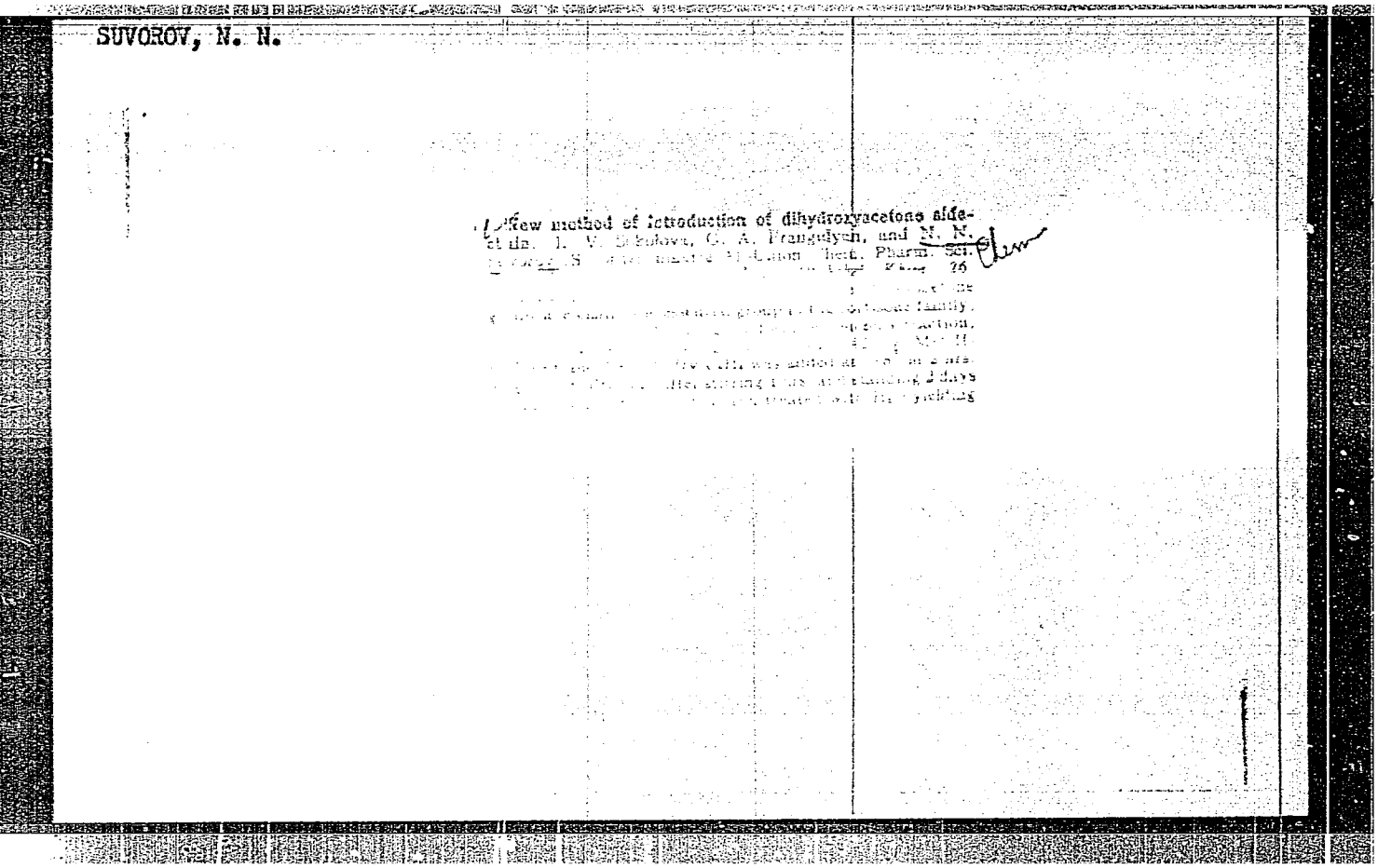
Configuration of chlorophenoxycrotonic acids. Zhur.ob.khim. 26 no.2:538-539 F '56. (MLRA 9:8)

1. Moskovskiy khimiko-tekhnologicheskiy institut imeni Mendeleyeva.
(Crotonic acid)



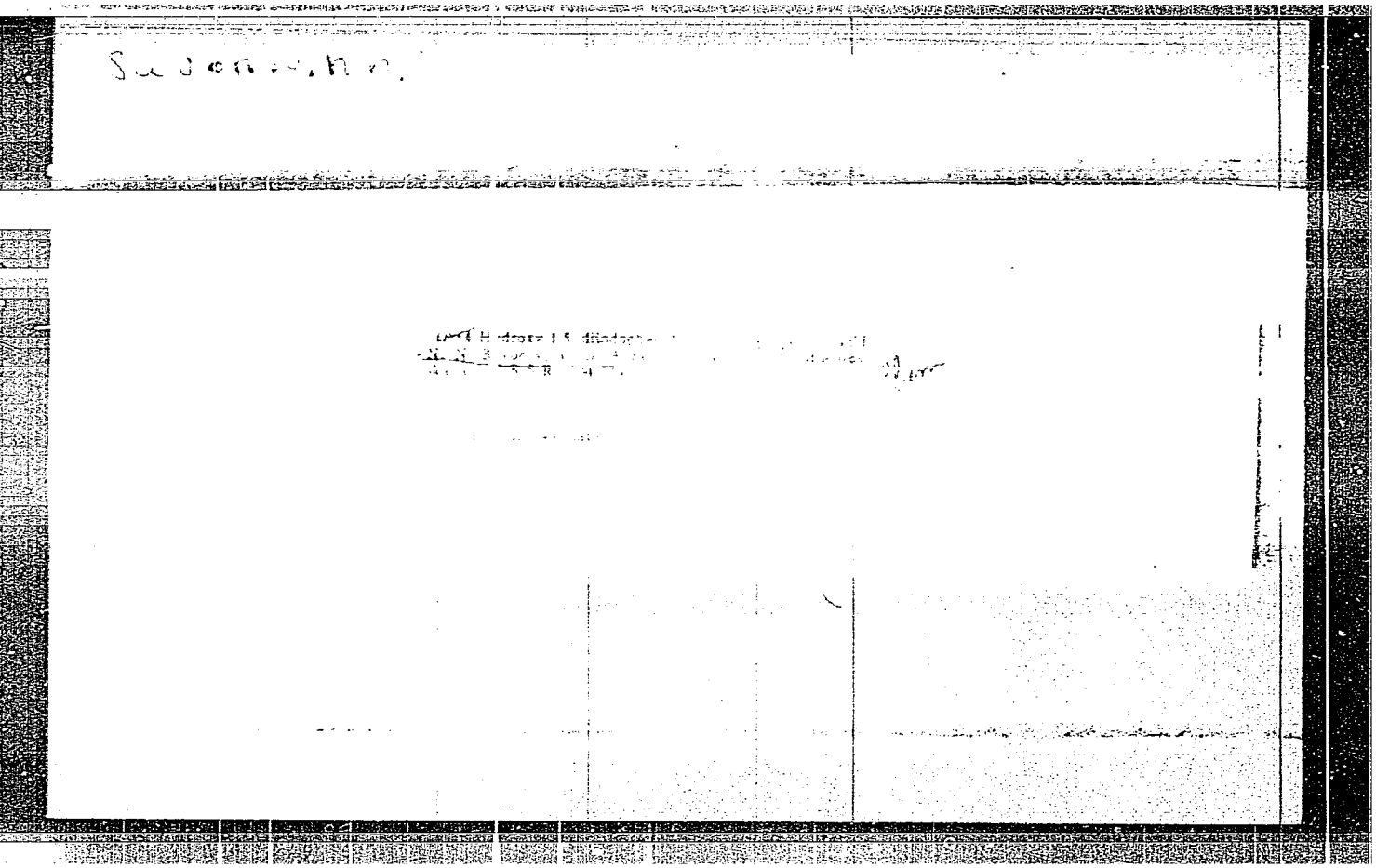


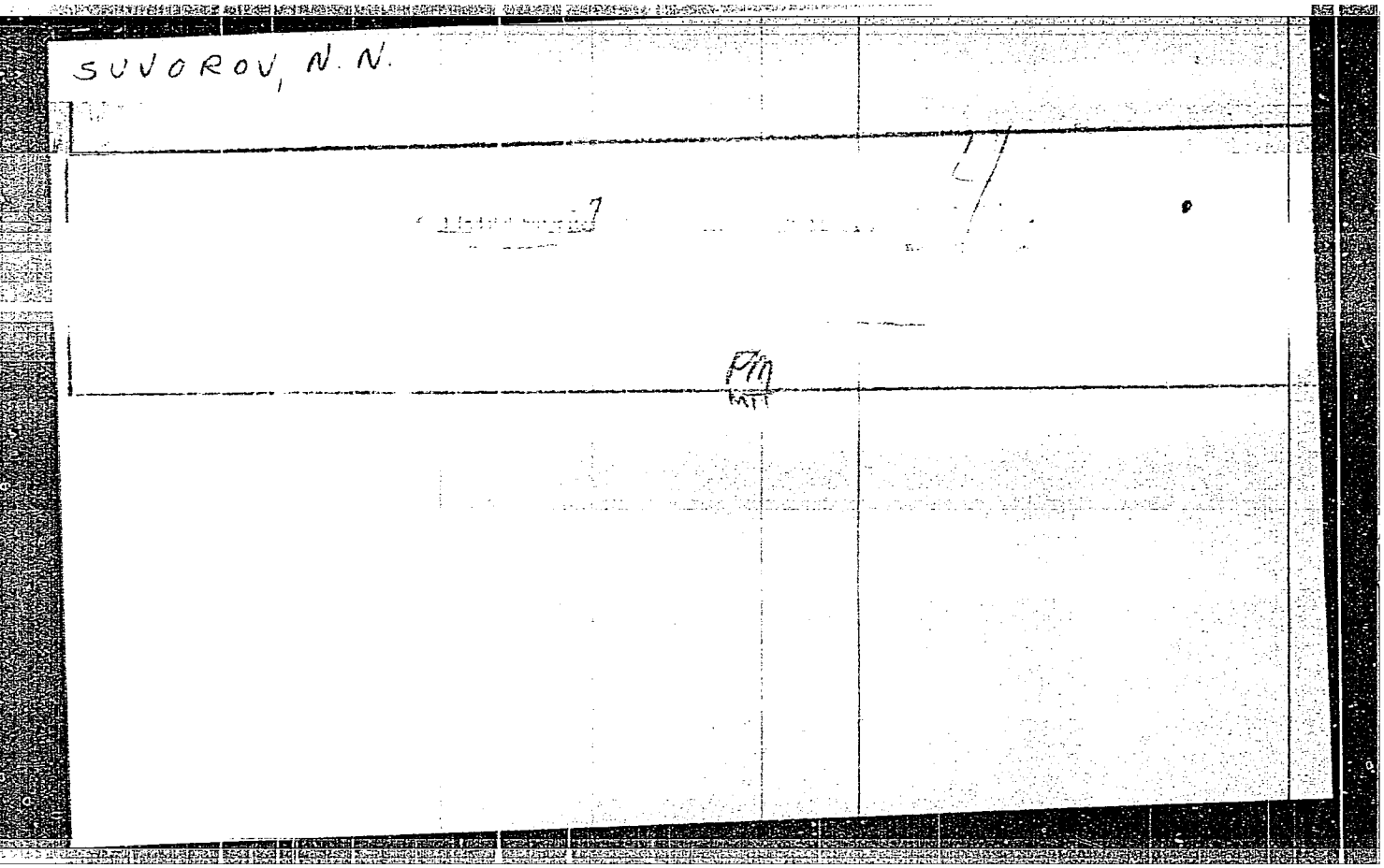




SUVOROV, N. N.

A new method of introduction of dihydroxyacetone side-
et al. [illegible] Pharm. Sci.
[illegible] 26





SUVOREV, N.N.

6
1-43d
1-43e 8

7

5,16-Pregnadien-3-ol-3β-one 20-acetate. N. N. Suvorov, D. V. Sokolova, and V. S. Mumalieva. U.S.S.R. 105,008, June 25, 1957. Satogenine is treated with Ac_2O, the product oxidized with CrO_3 in the presence of AcOH and NaOAc, sapond. with alc. KOH, and acetylated. The treatment with Ac_2O is carried out in the presence of *p*-toluenesulfonic acid and the sapon. is carried out in *tert*-BuOH.

M. Hosch

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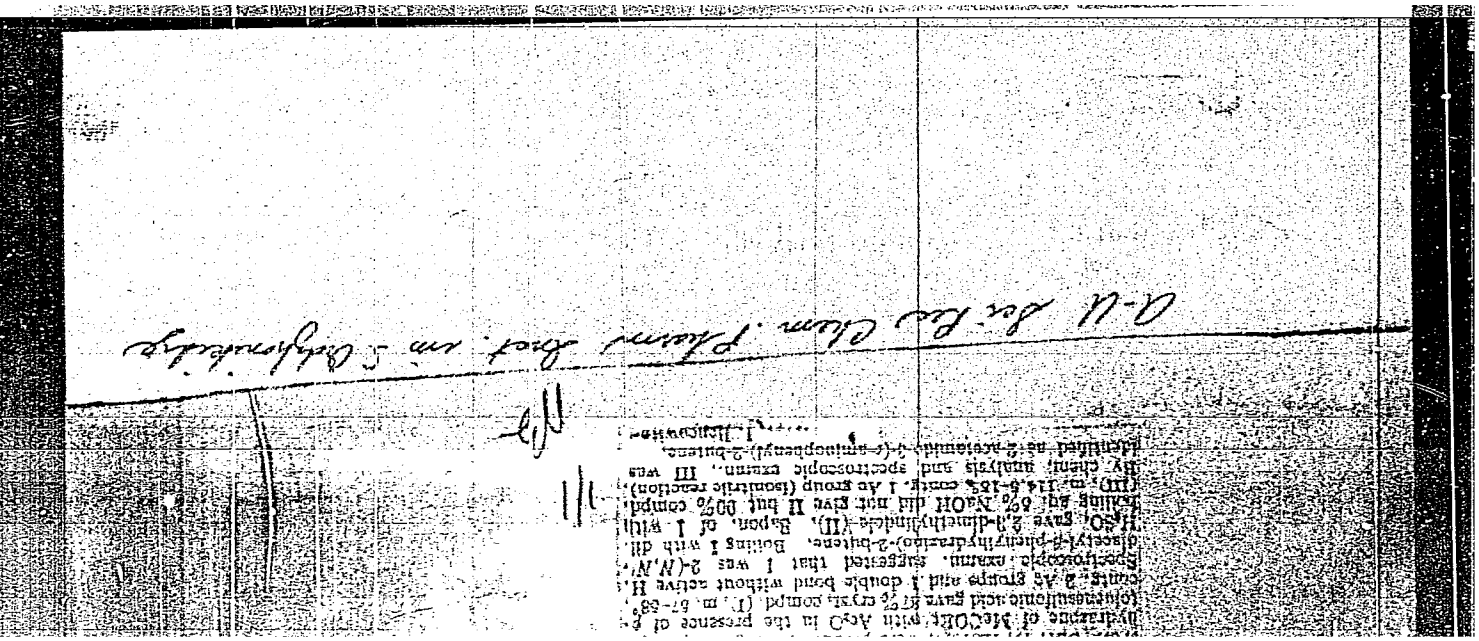


PERSHIN, G.N.; SUVOROV, N.N.; OVCHINNIKOVA, Zh.D.; MILOVANOVA, S.N.; MIKERINA, A.L.

Synthesis and bacteriostatic activity of some quaternary β-haloidophenoxyethyl ammonium salts [with summary in English]. Farm. i toks. 20 no.4:48-54 Jl-Ag '57. (MIRA 10:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut.

(AMMONIUM COMPOUNDS,
quaternary β-haloidophenozyethyl ammonium salts, prep. of & bacteriostatic eff. (Rus))

Suvorov, N. N.

RODIONOV, V.M.; SUVOROV, N.N.; AVRAMENKO, V.G.; MOROZOVSKAYA, L.M.

Synthesis of β-diiodotyrosine. Zhur. ob. khim. 27 no.8:2234-2238 Ag '57. (MLRA 10:9)

1. Moskovskiy khimiko-tekhnologicheskiy institut i Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut.
(Tyrosyne)

SUVOROV, N.N.

AUTHOR: Suvorov, N.N., Candidate of Chemical Sciences 25-58-3-13/41

TITLE: Successful Research (Plodotvornyye poiski)

PERIODICAL: Nauka i Zhizn', 1958, Nr 3, pp 32-36 (USSR)

ABSTRACT: In this article the author gives a short review of research work done in medical and pharmacological sciences from the 16th century up to the present. The Russian scientist, A.M. Butlerov, who in the 19th century established the theory of chemical structures, is mentioned in this connection. There are three sketches.

AVAILABLE: Library of Congress

Card 1/1 1. Medicine-USSR

SUVOROV, N.N.; SOKOLOVA, L.V.; MOROZOVSKAYA, L.M.; MURASHKVA, V.S.

Synthesis of progesterone from solasodin. Khim. nauka i prom. 3 no.2:281-282 '58. (MIRA 11:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze.
(Progesterone) (Solasodine)

SUVOROV, N.N.; YAROSLAVTSEVA, Z.A.; SOKOLOVA, L.V.; MOROZOVSKAYA, L.M.; OVCHINNIKOVA, Zh.D.; MURASHEVA, V.S.; MEYHEL'MAN, F.Ya.; VOROB'YEV, M.A.

Synthesis of cortisone from solasodine. Med.prom. 12 no.2:7-11 F '58. (MIRA 11:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.
(SOLASODINE) (CORTISONE)

SUVOROV, N.N., kand. khim. nauk.

Successful search. Nauka i zhizn' 25 no.3:32-36 Mr '58. (MIRA 11:4)
(Drugs)

79-28-4-54/60

AUTHORS: Suvorov, N. N., Sorokina, N. P., Sheynker, Yu. N

TITLE: Research in the Field of the Indole Derivatives (Issledovaniya v oblasti proizvodnykh indola) V. Mechanism of the E. Fischer Reaction (V.K voprosu o mekhanizme reaktsii E. Fishera)

PERIODICAL: Zhurnal Obshchey Khimii, 1950, Vol. 28, Nr 4, pp. 1090-1097 (USSR)

ABSTRACT: The conversion of aryl hydrazones of carbonyl compounds into indole derivatives (reaction according to E. Fischer) is the most important and most widely used method for the production of the latter. This reaction may be carried out by two ways: The first is by E. Fischer (Ref 2) and used acids as condensing agents (mineral acids, anhydrous zinc chloride, boron trifluoride etc.). On this occasion there is at least 1 mol condensing agent per 1 mol aryl hydrazone - practically a great excess of it is taken. The second method is by A. Ye. Arbuzov (Ref 3) and is based on the catalytic decomposition of the aryl hydrazones. In both cases the formation of the indole derivative takes place under precipitation of 1 mol ammonia (in the case of the method according to E.

Card 1/4

Research in the Field of the Indole Derivatives. V. Mechanism of the E. Fischer Reaction

Fischer as ammonium salt) from aryl hydrazone. This precipitation takes place due to a previous intramolecular transposition of aryl hydrazone. The mechanism of this interesting reaction was already investigated in technical publications (Refs 4, 5). G. and R. Robinson (Ref 5) divided the conversion of aryl hydrazone into the corresponding indole derivative into three stages:

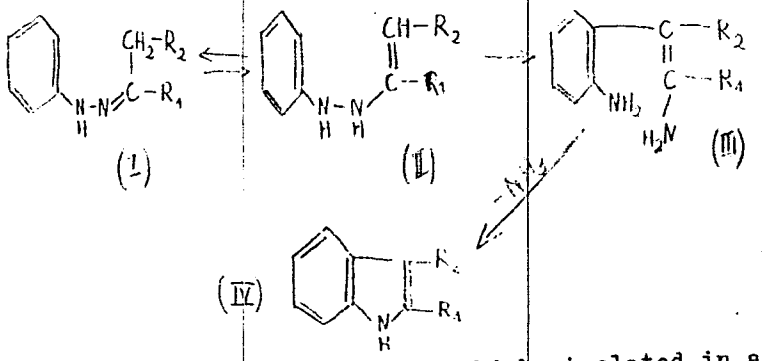
1) Tautomeric conversion of aryl hydrazone (I) into the corresponding unsaturated hydrazine (II).

2) Ortho-benzidine transposition of the hydrazo compound (II) into the unsaturated diamine (III).

3) Formation of the indole ring (IV) by precipitation of one ammonia molecule.

By means of an appropriate process (reaction carried out according to E. Fischer in acetic anhydride as medium and alkaline saponification of the diacetyl derivative of the unsaturated hydrazine) the authors succeeded in dividing this reaction into three stages which agree with the three stages of the mechanism suggested by G. and R. Robinson.

Research in the Field of the Indole Derivatives. V. Mechanism of the E. Fischer Reaction



Both intermediate products could be isolated in acetylated form from phenylhydrazone of the methyl-ethyl ketone used as example. Their structure and the conditions of their conversion into the corresponding indole derivative were investigated. On this occasion a direct proof was obtained for the correctness of the scheme by G. and R. Robinson. It was found that the formation of the unsaturated hydra-

Research in the Field of the Indole Derivatives, V. Mechanism of the E. Fischer Reaction

zine takes place under the presence of acid catalysts; ortho-benzidine transposition does not absolutely need this catalysis but can be made also in the alkaline medium. The formation of the indole ring which can be catalyzed by hydrogen ions takes place very rapidly. It can be achieved also by thermal means.
The carrying out of the mentioned formation reactions is described in detail in an experimental part. There are 2 figures and 26 references, 3 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze
(All-Union Chemical Pharmaceutical Scientific Research Institute imeni S. Ordzhonikidze)

PRESENTED: March 11, 1957
SUBMITTED: April 13, 1957

Card 4/4

AUTHORS: Suvorov, N. N., Dudinskaya, A. A. 79-28-5-59/69

TITLE: Hormones of the Thyroid and Their Homologs (Gormony shchitovidnoy zhelezy i ikh analogi) II. Synthesis of Betasine Derivatives (Sintez izomerov betazina)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 5, pp. 1371-1374 (USSR)

ABSTRACT: The β-diiodotyrosine (reference 1) synthetized by one of the authors together with V. M. Rodionov and V. G. Avramenko, is of high antithyroidal activity. Known under the name of "Betasine", it is used in medicine. β-diiodotyrosine is a β-(4-oxy-3,5-diiodophenyl)-β-alanine. For the purpose of investigating the dependence of the antithyreotropic effect on the chemical structure, it was of interest to synthetize isomers with another position of the phenolhydroxyl in betasine. The ortho-analog, β-(2-oxy-3,5-diiodophenyl)-β-alanine (formula I), was synthetized by iodization of β-(2-oxyphenyl)-β-alanine, which had been obtained by

Card 1/3

79-28-5-59/69

Hormones of the Thyroid and Their Homologs
II. Synthesis of Betasine Derivatives

Posner (Pozner) (reference 1) from coumarin and hydroxylamine. In order to realize the synthesis of the metabetasine isomer the β-(3-oxyphenyl)-β-alanine (II) was subjected to iodization. The compound (II) was produced according to V. M. Rodionov from M-oxybenzaldehyde. It is of interest that even in the case of an excess of iodated agents not a tri- but a di-substituted compound is formed. Based on stereometric considerations the structure of β-(3-oxy-4,6-diiodophenyl)-β-alanine (III) is attributed to the latter, which was also proved by its synthesis through the diazo compound of β-(3-amino-4,6-diiodophenyl)-β-alanine (IV), the structure of which is fixed (reference 3). It must be pointed out that the American chemical scientist Jackson (Dzhekson) (reference 4) arrived at similar conclusions with respect to the α-amino acids. In a rather complicated way he proved that in the iodization of m-tyrosine a β-(3-oxy-4,6-diiodidephenyl) alanine forms. The results on the physiologic activity of the synthetized compounds are mentioned in other papers. There are 9 references,

Card 2/3

Hormones of the Thyroid and Their Homologs
II. Synthesis of Betasine Derivatives

79-28-5-59/69

3 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze (All-Union Scientific Chemical and Pharmaceutical Research Institute imeni S. Ordzhonikidze)

SUBMITTED: April 13, 1957

Card 3/3

79-28-5-60/69

AUTHORS: Suvorov, N. N., Dudinskaya, A. A., Morozovskaya, L. M.

TITLE: Hormones of the Thyroid and Their Homologs (Gormony shchitovidnoy zhelezy i ikh gomologi). III. Synthesis of the Amine Analogs of Betasine (III. Sintez aminoanalogov betazina)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 5, pp. 1374-1378 (USSR)

ABSTRACT: In continuation of the compounds synthetized by the authors for the purpose of investigating their antithyroidal effect in dependence on their chemical structure (Reference 2), they used the N-acetyl-β4-nitrophenyl-β-alanine (I) - synthetized already earlier by them - which through the skeleton nickel catalyst was hydrated to β-4-aminophenol-β-N-acetylamine-proprionic acid (II) as initial product for the synthesis of the 4-amino analog of betasine. This acid was saponified and the obtained unseparated β-4-aminophenyl-β-alanine (III) was iodated in pure state in diluted hydrochloric acid with monochloro-

Card 1/3

79-28-5-60/69

Hormones of the Thyroid and Their Homologs.
III. Synthesis of the Amine Analogs of Betasine

iodide, which lead to the necessary β-(amino-3,5-
-diiodophenyl-β-alanine) (IV)(see scheme 1). The easily
accessible β-3-nitrophenyl-β-alanine (V) was hydrated on
the above catalyst for the synthesis of β-(3-amino-4,6-
-diiodophenyl)-β-alanine (VII), and the obtained β-3-ami-
nophenyl-β-alanine (VI) was iodated with monochloroiodide.
For experimental reasons the structure (VII) and not that
of (VIII) or (IX) was attributed to the iodization product.
The final proof for compound (VII) was supplied the following
way: The aromatic amino group was substituted by iodine
through the diazocompound and the obtained triiodaminic
acid (X) was oxidized with potassium permanganate with the
formation of triiodobenzoic acid (melting point 247-248°C).
This proved to be identical with the 2,4,5-triiodobenzoic
acid (XI) by Wheeler & Johns (Uiller i Dzhons) which was
proved by direct comparison with the acid itself as well
as of the ethylesters obtained by the authors. The results
of the physiological activity of the synthetized compounds
will be given at a later time.
There are 5 references, 3 of which are Soviet.

Card 2/3

79-28-5-60/69

Hormones of the Thyroid and Their Homologs.
III. Synthesis of the Amine Analogs of Betasine

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S. Ordzhonikidze (All-Union Scientific Chemical and Pharmaceutical Research Institute imeni S. Ordzhonikidze)

SUBMITTED: April 13, 1957

Card 3/3